

# SIEMENS



## Digital Video Recorder SISTRON AX4 Lite 250/100 V2.0

### User Manual

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**About this document**

This User Manual contains instructions for installation, configuration and operation of SISTORE AX. A complete version of this manual can be found in Adobe Acrobat format (PDF) on the SISTORE AX CD. This is the most recent version, unless changes have been made after the printing of this manual. All subsequent alterations have been included as far as possible.



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# 1 Safety

## 1.1 Target readers

The instructions in this document are designed **only** for the following target readers:

Target readers	Qualification	Activity
Installer	Technical training for building or electrical installations.	Installs the product, individual components of the product or replacement parts.
Operational startup personnel	Technical training for building or electrical installations. Training on the product is recommended.	Puts the product into operation for the first time, or changes the existing configuration.
End user	Has working knowledge of computers. Instruction by technical specialists is necessary.	Performs only the procedures for proper operation of the product.
Service personnel	Technical training for building or electrical installations.	Checks the product at regular intervals to ensure that it is in good working order and performs service work.

## 1.2 Work safety information

- Read the general safety precautions before operating the device.
- Keep this document for reference.
- Follow all warnings and instructions marked on the device.
- Always pass this document on together with the device.
- Any national or local safety standards or laws that apply to the development, design, installation, operation or disposal of a product must be adhered to in addition to the instructions in the product documentation.

### Radio interference with other devices in the environment

- This is a Class A device. This equipment may cause radio interference in a residential installation. In this case the user is encouraged to perform appropriate measures to correct the interference.

### Liability claim

- Do not connect the device if it is damaged or any parts are missing.
- Do not make any changes or modifications to the device unless they have been approved by the manufacturer.
- Use only spare parts and accessories that have been approved by the manufacturer.

## 1.2.1 Transport

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### **Damage during transport**

- Keep the packaging material for future transportation.
- Do not expose the device to mechanical vibrations or shocks.

## 1.2.2 Installation

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### **Damage due to unsuitable mounting location**

- The environmental conditions recommended by the manufacturer must be observed (see Section 3: Technical data).
- Do not operate the device close to sources of powerful electromagnetic radiation.
- Do not operate the device in dusty places.
- The device should only be used for indoor applications.
- Do not expose the device to mechanical vibrations or shocks.
- Protect the device against moisture.

### **Cable damage due to mechanical load**

- Make sure that cables are not under stress, kinked or damaged.

### **Damage to the device due to lack of ventilation**

- Do not block or cover the ventilation openings of the device.
- Do not stack several devices on top of each other and do not place any objects on the device.
- Place this equipment only in an upright position. This equipment has an open-frame Switching Mode Power Supply (SMPS), which can cause a fire or electric shock if anything is inserted through the ventilation holes on the side of the equipment.

### **Danger of electrical shock due to incorrect connection**

- Use the device only in conjunction with a power supply cable that has been approved in your country and complies with the national standards.
- This product is designed for TN power systems and for IT power systems in Norway with 230 V phase-to-phase voltage. Do not connect the device to any other IT power systems.

### **Damage to the device due to overvoltage**

- Connect the device only to power sources with the specified voltage. Voltage supply requirements can be found on the type label (see Section 3: Technical data).

### 1.2.3 Service and maintenance

---

**Danger of electrical shock during maintenance**

- Always disconnect the power cable and other cables from the main power supply before performing maintenance.

**Danger of electrical shock while cleaning the device**

- Disconnect the device from the mains supply before cleaning.
- Do not use liquid cleaners or sprays that contain alcohol, spirit or ammonia.

## 1.3 Meaning of the written warning notices

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The severity of a hazard is indicated by the following written warning notices.

Signal word	Type of risk
CAUTION	There is a risk of minor injuries or damage to property.

## 1.4 Meaning of the hazard symbols

---

The nature of the hazard is indicated by icons.



---

Warning of a hazard

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## 2 Guidelines and standards

### 2.1 European Directives

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This product complies with the requirements of the following European directives. The EU declaration of conformity is available to the responsible agencies at:

Siemens Building Technologies  
Fire & Security Products GmbH & Co. oHG  
76181 Karlsruhe  
Germany

#### European Directive 2004/108/EC "Electromagnetic Compatibility"

Compliance with the European Directive 2004/108/EC has been proven by testing according to the following standards:

Emitted interference:	EN 61000-6-4 EN 55022 Class A
Interference resistance:	EN 50130-4

#### European Directive 2006/95/EEC "Low-Voltage Directive"

Compliance with the European Directive 2006/95/EEC has been proven by testing according to the following standard:

Safety:	EN 60950-1
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### 2.2 FCC compliance

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This equipment has been tested and found to comply with the limits for a **Class A** digital device, pursuant to **Part 15 of the FCC Rules**. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Shielded cables should be used with this unit to ensure compliance with class A limits.

### 3 Technical data

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#### Video

Signal format	PAL or NTSC (auto-detect)
Video input	Composite: 4 looping inputs, 1 Vpp auto-terminating, 75 Ohms
Monitor outputs	Composite: 1 BNC, 1 Vpp, 75 Ohms VGA: 1 (auto-detect)
Video resolution	Composite: 720 x 576 (PAL), 720 x 480 (NTSC) VGA: 720x576 @ 75 Hz (PAL), 720x480 @ 60 Hz (NTSC)
Playback/record speed (images per second)	100 ips (PAL), 120 ips (NTSC)

#### Inputs / Outputs

Alarm input	4 TTL, programmable as NC or NO, 4.3 V threshold
Alarm output	1 relay output, terminal blocks, programmable as NC or NO, 2 A @ 125 V AC, 1 A @ 30 V DC
Alarm reset input	1x TTL, terminal block
Internal buzzer	80 dB @ 10 cm
Network connectivity	10/100 Mbps Ethernet (RJ-45)

#### Connections

Video input	Composite: 4 BNC
Video loop	Composite: 4 BNC (auto-terminating)
Monitor output	Composite: 1 BNC VGA: 1 VGA
Alarm input/output	Terminal blocks
Ethernet port	RJ-45
RS-232C serial port	DB9 (P)
RS-485 serial port	2-connector terminal block
USB port	1 (USB 2.0)
IR port	1 remote control

#### Storage

Primary storage	SATA hard disk drive
Secondary storage (optional)	USB hard-disk drive, USB CD-RW drive or USB flash drive

#### Environmental

Operating temperature	5 – 40 °C (41 – 104 °F)
Operating humidity	0 – 90 %

#### Power supply

Power	100 - 240 V AC, 0.8 – 0.4 A, 60/50 Hz
Power consumption	30 W max.

#### General

Dimensions (WxHxD)	340 x 46.5 x 310 mm (13.4" x 1.8" x 12.2")
Unit weight	3.0 kg (6.6 lbs)
Shipping weight	4.5 kg (9.9 lbs)
Shipping dimensions (WxHxD)	440 x 143 x 410 mm (17.3" x 5.6" x 16.1")

<b>Approval</b>	CE, FCC, C-Tick
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Specifications are subject to change without notice.

## 4 Details for ordering

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Type	Order No.	Designation	Weight
SISTORE AX4 Lite 250/100	S54569-C50-A13	SISTORE AX4 Lite, 250 GB, 100 ips	4.5 kg

## 5 Scope of delivery

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- Digital video recorder
- Power cord
- User Manual, Multilingual RAS Software and User Manual on CD-ROM
- Multilingual Installation Guide
- Infrared remote control

## 6 Description of functions

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SISTORE AX is a digital video recording system for the surveillance of rooms, premises, buildings, production workshops, critical public areas or any outdoor areas where security is important.

In addition to replacing both a time-lapse VCR and a multiplexer in a security installation, your DVR has many features that make it much more powerful and easier to use than even the most advanced VCR.

The DVR converts analog PAL or NTSC video to digital images and records them on a hard disk drive. Using a hard disk drive allows you to access recorded video almost instantaneously; there is no need to rewind tape. The technology also allows you to view recorded video while the DVR continues recording video.

Digitally recorded video has several advantages over analog video recorded on tape. There is no need to adjust tracking. You can freeze frames, fast forward, fast reverse, slow forward and slow reverse without image streaking or tearing. Digital video can be indexed by time or events, and you can instantly view video after selecting the time or event.

Your DVR can be set up for event or time-lapse recording. You can define times to record, and the schedule can change for different days of the week and user defined holidays.

The DVR can be set up to alert you when the hard disk drive is full, or it can be set to record over the oldest video once the disk is full.

Your DVR uses a proprietary encryption scheme making it nearly impossible to alter video.

You can view video and control your DVR remotely by connecting via Ethernet. There is a USB port that can be used to upgrade the system or copy video clips to external hard disk, CD-RW and flash drives.

Your colour digital video recorder (DVR) provides recording capabilities for four camera inputs. It provides exceptional picture quality in both live and playback modes, and offers the following features:

- Efficient video compression through “MPEG4 Technology”
- 4 composite video input connectors
- Compatible with colour (PAL or NTSC) and B/W (CCIR and EIA-170) video sources
- Auto-detection for PAL and NTSC
- Monitor connectors: 1 BNC Video Out, 1 VGA
- Multiple search engines (date/time, calendar, event, motion, museum, text-in)
- Records up to 100/120 images per second (PAL/NTSC)  
“Loop-through” video connectors
- Continuous recording in disk overwrite mode
- 1 USB 2.0 port
- Continues recording while transmitting to remote site and during playback

### *Description of functions*

- User-friendly Graphical User Interface (GUI) menu system
- Multiple recording modes (time-lapse, pre-event, alarm, motion and panic)
- Text input for Automated Teller Machine and Point of Sales
- Alarm connections include: input, output and reset input
- Built-in alarm buzzer
- Live or recorded video access via Ethernet
- Time synchronization using industry standard protocol
- Self-diagnostics with automatic notification including hard disk drive S.M.A.R.T. protocol
- Infrared remote control



## 7 Installation


**CAUTION**

Refer installation and servicing to qualified personnel.

The diagram below shows a typical DVR installation.

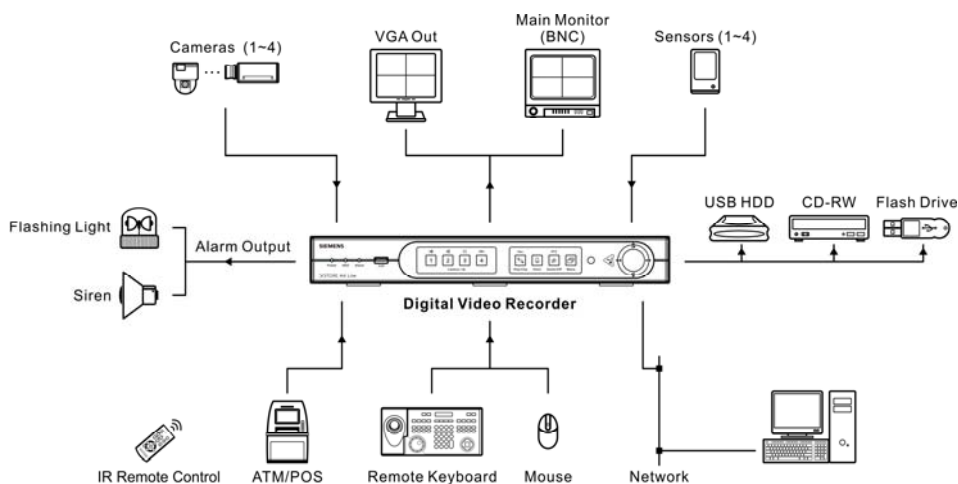


Fig. 1 Typical DVR installation

No special tools are required to install the DVR. Refer to the installation manuals for the other items that make up part of your system.

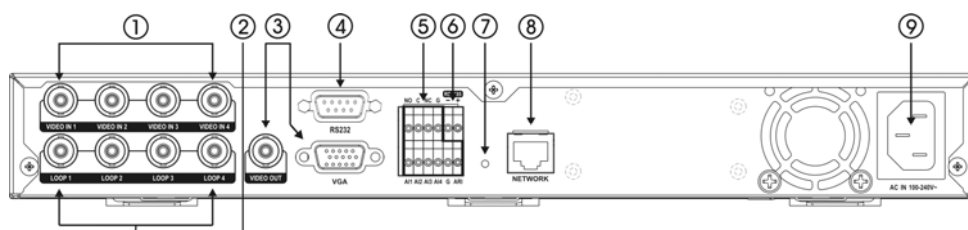


Fig. 2 DVR rear panel

- |                        |                      |                        |
|------------------------|----------------------|------------------------|
| ① Video input          | ② Video loop-through | ③ Video out            |
| ④ RS232 port           | ⑤ Alarm input/output | ⑥ RS485 port           |
| ⑦ Factory reset switch | ⑧ Network port       | ⑨ Power cord connector |

Your DVR can be used with either PAL or NTSC equipment.


**NOTE**

You cannot mix PAL and NTSC equipment. For example you cannot use a PAL camera and an NTSC monitor.

## 7.1 Connecting the video input

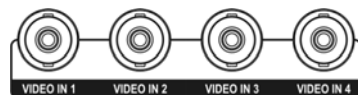


Fig. 3 Video input connectors

Connect the coaxial cables from the video sources to the BNC Video In connectors.

## 7.2 Connecting the loop-through video

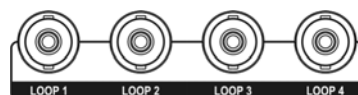


Fig. 4 Video loop-through connectors

If you would like to connect your video source to another device, you can use the Loop BNC connectors.



### NOTE

The Loop BNC connectors are auto terminated. Do **not** connect a cable to the Loop BNC unless it is connected to a terminated device because it will cause poor quality video.

## 7.3 Connecting the monitor



Fig. 5 Video Out connector

Connect the main monitor to the Video Out connector.

## 7.4 Connecting a VGA monitor

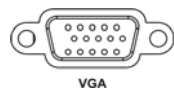


Fig. 6 VGA connector

A VGA connector is provided so that you can use a standard, multi-sync computer monitor as your main monitor. Use the cable supplied with your monitor to connect it to the DVR.



### NOTE

It is possible that the DVR does not detect a VGA monitor automatically if the connected VGA monitor does not support auto detect function. In this case, press and hold the **Panic** button on the front panel for 5 seconds or longer to switch the video output to VGA out. Pressing and holding the **Panic** button for 5 seconds or longer again returns to the previous video output mode.

**NOTE**

Please note the technical specification for the VGA output in Section 3: Technical data.

## 7.5 Connecting to the RS232 port

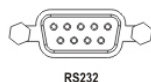


Fig. 7 RS232 connector

An RS232 port is provided to connect a remote control keyboard.

## 7.6 Connecting alarms

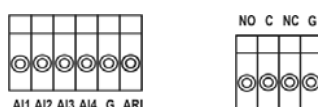


Fig. 8 Alarm Input/Output connectors

**NOTE**

To make connections on the Alarm Connector Strip, press and hold the button and insert the wire in the hole below the button. After releasing the button, tug gently on the wire to make certain it is connected. To disconnect a wire, press and hold the button above the wire and pull out the wire.

**AI 1 to 4 (Alarm-In)**

You can use external devices to signal the DVR to react to events. Mechanical or electrical switches can be wired to the AI (Alarm-In) and G (Ground) connectors. The threshold voltage is 4.3 V and should be stable at least 0.5 seconds to be detected. See Section 8.7.1: Alarm-In screen.

**G (Ground)**

Connect the ground side of the alarm input and/or alarm output to the G connector.

**NOTE**

All the connectors marked G are common.

**NC/NO (Relay Alarm-Output)**

The DVR can activate external devices such as buzzers or lights. Connect the device to the C (Common) and NC (Normally Closed) or C and NO (Normally Open) connectors. NC/NO is a relay output which sinks 2A@125VAC and 1A@30VDC. See Section 8.9.2: Alarm-Out screen.

**ARI (Alarm Reset In)**

An external signal to the Alarm Reset In can be used to reset both the Alarm Out signal and the DVR's internal buzzer. Mechanical or electrical switches can be wired to the ARI (Alarm Reset In) and G (Ground) connectors. The threshold voltage is below 0.3V and should be stable at least 0.5 seconds to be detected. Connect the wires to the ARI (Alarm Reset In) and G (Ground) connectors.

## 7.7 Connecting to the RS485 port

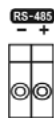


Fig. 9 RS485 connector

The DVR can be controlled remotely by an external device or control system, such as a control keyboard, using RS485 half-duplex serial communications signals. The RS485 connector can also be used to control PTZ (pan, tilt, zoom) cameras. Connect RX-/TX- and RX+/TX+ of the control system to the – and + (respectively) of the DVR. See the Section 8: Configuration and the PTZ camera or remote keyboard manual for configuring the RS485 connection.

## 7.8 Factory reset

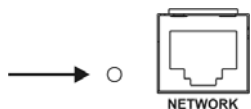


Fig. 10 Factory reset switch

The DVR has a factory reset switch to the left of the Network port on the rear panel. This switch will only be used on the rare occasions that you want to return all the settings to the original factory settings.



### NOTE

When using the Factory Reset, you will lose any settings you have saved.

To reset the unit, you will need a straightened paperclip:

1. Turn the DVR off.
2. Poke the straightened paperclip to the unlabeled hole in the left of the Network port, and turn the DVR on.
3. Hold the reset switch until the DVR turns on and live monitoring screen appears.
4. Release the reset switch.
  - ➔ All of the DVR's settings are now at the original settings it had when it left the factory.

## 7.9 Connecting to the network port

---



Fig. 11 Network connector

The DVR can be networked using the 10/100Mb Ethernet connector. Connect a Cat5 cable with an RJ-45 jack to the DVR connector. The DVR can be networked with a computer for remote monitoring, searching, configuration and software upgrades. See the Section 8: Configuration for configuring the Ethernet connections.



---

**NOTE**

The Network connector is not designed to be connected directly with cable or wire intended for outdoor use.

---

## 7.10 Connecting the power cord

---

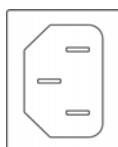


Fig. 12 Power cord connector

Connect the AC power cord to the DVR and then to a wall outlet.



---

**WARNING**

Route power cords so that they are not a tripping hazard. Make certain the power cord will not be pinched or abraded by furniture. Do not install power cords under rugs or carpet.

---



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**WARNING**

The power cord has a grounding pin. If your power outlet does not have a grounding pin receptacle, do not modify the plug.

Do not overload the circuit by plugging too many devices in to one circuit.

---

Your DVR is now ready to operate. Refer to Sections 8: Configuration and 9: Operation.

# 8 Configuration



**NOTE**  
Your DVR should be completely installed before proceeding. Refer to Section 7: Installation.

## 8.1 Front panel controls

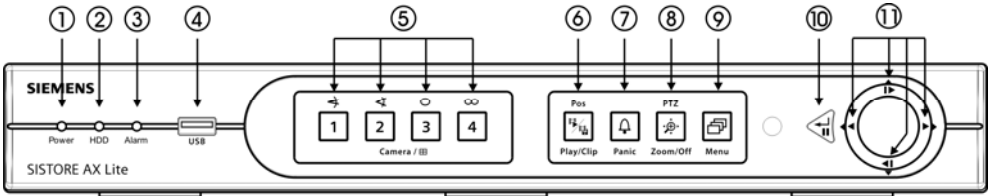


Fig. 13    DVR front panel

- |                      |                   |                    |
|----------------------|-------------------|--------------------|
| ① Power LED          | ⑤ HDD LED         | ③ Alarm Out LED    |
| ④ USB connector      | ⑥ Camera buttons  | ⑦ Play/Clip button |
| ⑦ Panic button       | ⑧ PTZ/Zoom button | ⑨ Menu button      |
| ⑩ Enter/Pause button | ⑪ Arrow buttons   |                    |



**NOTE**  
A separate Alarm button is not provided. Pressing any keys on the front panel or remote control resets alarm output including the internal buzzer when the alarm is activated. However, when you are in the menu or PTZ mode, you have to exit the menu or PTZ mode first to reset alarm output.

The front panel looks and operates much like a VCR combined with a multiplexer. Many of the buttons have multiple functions. The buttons on the infrared remote control, while laid out differently, perform the same functions as those on the front panel. The following describes each button and control. Take a few minutes to review the descriptions. You will use these to initially set up your DVR and for daily operations.



**NOTE**  
The infrared sensor is just to the right of the **Menu** button. Make certain that nothing blocks the sensor, or the remote control will not function properly.



**NOTE**  
You can also use a USB mouse (not supplied) to navigate through the screens and menus much like you would on a computer.

- |                      |   |
|----------------------|---|
| <b>Power LED</b>     | The Power LED is lit when the unit is On.   |
| <b>HDD LED</b>       | The HDD LED flickers when the DVR is recording or searching video on the hard disk drive. |
| <b>Alarm Out LED</b> | The Alarm LED is lit when alarm output or internal buzzer is activated.                   |

**USB connector**

A USB port on the front panel is provided to connect external hard disk, CD-RW or flash drives for video clip copying or system upgrades. Position external drives close enough to the DVR so that you can make the cable connections, usually less than 6 feet. Use the USB cable provided with the hard disk drive to connect it to the DVR.

A USB mouse (not supplied) can be connected to the USB port. You can use the mouse to navigate through the screens and menus much like you would on a computer.




A USB to Serial converter can be connected to the USB port. Multiple text-in devices can be used with a USB to Serial converter.

**Camera buttons  
(1 to 4)**

Pressing the individual camera buttons will cause the selected camera to display full screen, and pressing the button again changes the display format to the quad (2x2) mode. Buttons 1 to 4 are also used to enter passwords.


In the PTZ mode, pressing the button 1 zooms in the screen and the button 2 zooms out the screen, and pressing the button 3 focuses near and button 4 focuses far.

**Play/Clip button**

Pressing the **Play/Clip** button enters the playback mode, and pressing the button again exits the playback mode. When entering the playback mode, video is paused. Pressing the  arrow button plays back video at regular speed. The screen displays  when the DVR is in the Pause mode and the screen displays  when the DVR is playing back video. The button is also used to load a Preset View in the PTZ mode.

Pressing and holding the **Play/Clip** button for three seconds or longer allows you to copy video clips.

**Panic button**

Pressing the **Panic** button starts panic recoding of all camera channels, and displays  on the screen. Pressing the button again will stop panic recording.


**NOTE**

When the DVR does not detect a VGA monitor automatically, pressing and holding the **Panic** button on the front panel for 5 seconds or longer switches the video output to VGA out manually.

**PTZ/Zoom button**

In the live monitoring mode, pressing the **PTZ/Zoom** button enters the PTZ mode, and pressing the button again exits the PTZ mode and enters the zoom mode. When in the zoom mode, pressing the button again exits the zoom mode.

When in the PTZ mode, pressing the arrow buttons or **Menu** button allows you to control properly configured cameras.

When in the zoom mode, a rectangle displays on the screen. A rectangle shows the area that will be enlarged. You can move the rectangle around using the arrow buttons. Pressing the  (Enter) button enlarges the area in rectangle.

**NOTE**


Pressing the **PTZ/Zoom** button enters directly the zoom mode if there is no PTZ camera you set up in the Camera setup.


**Menu button**

Pressing the **Menu** button enters the Setup screen. You will need to enter the authorized user and password to access Setup. Pressing the button also closes the current menu or setup dialog box. In the Playback mode, pressing the button displays the Search menu.

Pressing and holding the button for three seconds or longer displays live channels sequentially.

















**Enter/Pause button**

When in the setup mode, pressing the  button selects a highlighted item or completes an entry that you have made.


In the live monitoring mode, pressing the button freezes the current screen and the screen displays  icon. When in the playback mode, pressing the button pauses playing video.

**Up, Down, Left, Right Arrow buttons**

These buttons are used to navigate through menus and GUI. The Up and Down arrow buttons are also used to change numbers by highlighting a number in the menu and by increasing or decreasing the number's value.

These buttons are also used to control Pan and Tilt when in the PTZ mode. In the playback mode, pressing the  button plays video backward at high speed. Pressing the button again toggles the playback speed from ,  and , and the screen displays ,  and  respectively. While playing video, pressing the  button plays video forward at high speed. Pressing the button again toggles the playback speed from ,  and , and the screen displays ,  and  respectively. When in the pause mode, pressing the  button moves to the next image and pressing the  button moves to the previous image.

**ID button on remote control**

If a DVR System ID is set to 0, the infrared remote control will control that DVR without any additional operations. (Refer to Section 8.11.1: Information screen for further information on setting the System ID.) If the system ID is 1 to 4, you must to press the  button on the remote control and then press the number button (1 to 4) in order to control that DVR. If the System ID of two or more DVRs is set to 0, those DVRs will react to the infrared remote control at the same time.

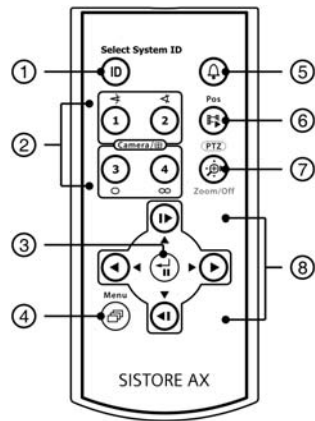


Fig. 14 Infrared remote control

- |                      |                    |
|----------------------|--------------------|
| ① ID button          | ⑤ Alarm button     |
| ② Camera buttons     | ⑥ Play/Clip button |
| ③ Enter/Pause button | ⑦ PTZ/Zoom button  |
| ④ Menu button        | ⑧ Arrow buttons    |




## 8.2 Turning on the power

Connecting the power cord to the DVR turns on the unit. The unit takes approximately 60 seconds to initialize.



## 8.3 Initial unit setup

Before using your DVR for the first time, you will want to establish the initial settings. This includes items such as time and date, display language, camera, remote control, record mode, network and password. Your DVR can be set up using various screens and dialog boxes.

Throughout the screens you will see . Highlighting the  and pressing the  button gives you the opportunity to reset that screen to its default settings.

1. Press the **Menu** button to enter the setup screens.

→ The **Login** screen appears.

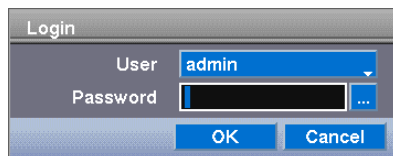



Fig. 15 Login screen

2. Select a **User** and enter the password by pressing the appropriate combination of Camera number buttons and then the  button.

There is no default password when logging in the admin user for the first time.




### NOTE

To assure the secure management of the system, setting up a password is strongly recommended.



### NOTE

You can use a mouse (not supplied) to access the **Login** screen in addition to using the front panel buttons or the infrared remote control. Click the right mouse button to display the **Login** screen. To enter a password, click the  button, and the virtual keyboard displays. See instructions below for using the virtual keyboard.

## 8.4 Setup screen



Fig. 16 Setup screen

Press the **Menu** button to enter the setup screen.

While setting up the DVR, there will be many opportunities to enter names and titles. When making these entries, a Virtual Keyboard will appear.

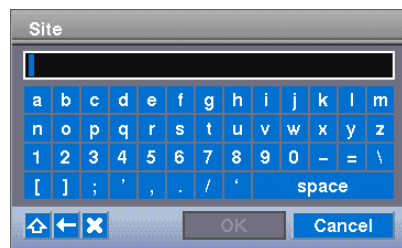


Fig. 17 Virtual Keyboard

Use the arrow keys to highlight the character you want in the name or title and press the button. That character appears in the title bar and the cursor moves to the next position. Pressing toggles between the upper and lower case keyboards, backspaces, and deletes entered characters. You can use up to 31 characters including spaces in your title.

Special characters can be created using ^ and a capital letter; e.g., ^J for NL (New Line), ^M for CR (Carriage Return). Special characters are commonly used by text input devices and will be useful when performing Text-In Searches.

## 8.5 Recording settings

Your DVR offers a variety of flexible recording modes. You can set it up to record all the time or to only record events. It can be set up to continue recording once the hard disk drive is full by recording over the oldest video, or you can set it up to alert you when the hard disk is full and stop recording.

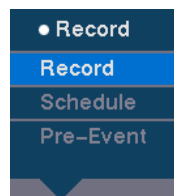


Fig. 18 Record menu

### 8.5.1 Record screen

Highlight **Record** in the **Record** menu and press the button.

→ The **Record** setup screen appears.

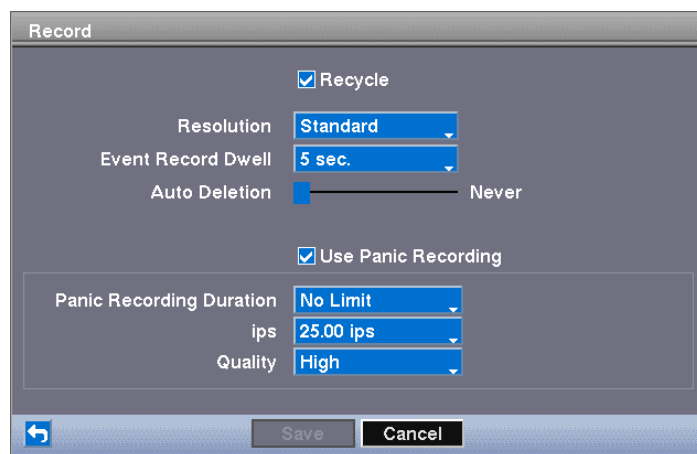



Fig. 19 Record setup screen

Highlighting **Recycle** and pressing the  button toggles between On and Off. In the Recycle mode, the DVR records over the oldest video data once all available storage space has been used. When **Recycle** is turned off, the DVR stops recording once all available storage space has been used.

1. Highlight the **Resolution** box and select from "Very High", "High" and "Standard".

**NOTE**





The total ips of all camera channels will be limited to 50 ips (60 ips for NTSC) when set to **High** resolution and 25 ips (30 ips for NTSC) when set to **Very High** resolution.

**NOTE**

When set to **High** or **Very High** resolution, the maximum recording speed of each camera channel decreases by half. However the maximum recording speed of 25 ips (30 ips for NTSC) will maintain if the number of cameras that are turned On is two or less.



No. of cameras set to On and High or Very High resolution				
0	1	2	3	4
—	25 ips	25 ips	12.5 ips	12.5 ips

2. Highlight the **Event Record Dwell** box and set the length of time you would like to record for the associated event.
  - You can set the dwell from 5 seconds to 15 minutes.
  - Refer to the **System Event - Actions** screen in Section 8.7.5 for information regarding event recording.
3. Highlight the slide bar beside **Auto Deletion**, and use the Left and Right arrow buttons to adjust the length of time recorded data will be kept from 1 to 99 days.
  - The DVR automatically deletes video recorded earlier than the user-defined period under three conditions: at midnight, whenever the system reboots or whenever the user changes the **Auto Deletion** settings. Selecting "Never" will disable the Auto Deletion function.
4. Highlighting **Use Panic Recording** and pressing the  button toggles between On and Off.
  - Highlight the **Panic Recording – Duration** box and set the duration of panic recording.
  - Panic recording will stop automatically after the preset duration as long as the **Panic** button is not pressed to stop the panic recording. You can set the dwell from 5 minutes to 1 hour. Select "No Limit" if you want to stop panic recording manually.
  - Highlighting the **Panic Recording – ips** box and pressing the  button allows you to set the images per second for Panic recording. You can select from 0.10 to 25.0 (30.0 for NTSC) images per second.
  - Highlighting the **Panic Recording – Quality** box and pressing the  button allows you to set the recorded image quality for Panic recording. You can select from: Very High, High, Standard and Low.
  - You can save your **Record** settings by highlighting **Save** and pressing the  button.
  - Selecting **Cancel** exits the screen without saving the changes.

## 8.5.2 Schedule screen

Highlight **Schedule** in the **Record** menu and press the  button.

→ The **Schedule** setup screen appears.

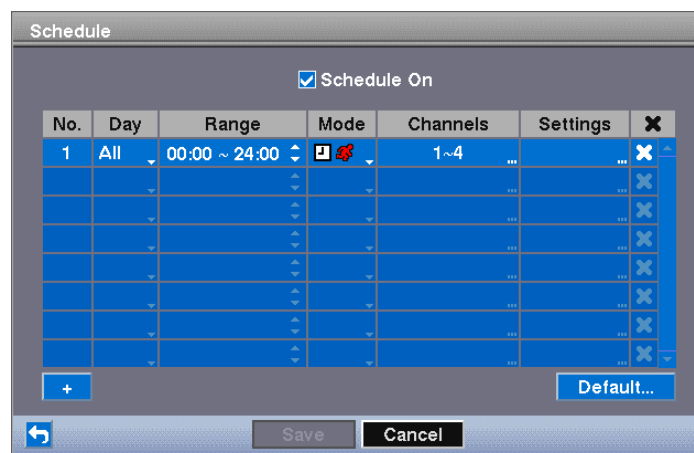











Fig. 20 Schedule setup screen






You can program the DVR to record only during certain times based on time, day of the week, and holidays. The smallest time segment you can use is 15 minutes.



Highlighting **Schedule On** and pressing the  button toggles between On and Off. In the Schedule On mode, the DVR records video based on the schedule established in the **Schedule** screen. When turning Schedule recording Off, you will be asked to confirm your decision, and  displays at the top-left corner of each camera screen. Panic recording will function even when Schedule is turned off.  displays during panic recording.





1. Highlight the "+" and press the  button to add a schedule item.
2. Highlight the box under the **Day** heading and press the  button to change the days that the scheduled recording will take place.
  - Choose from: Sun, Mon, Tue, Wed, Thu, Fri, Sat, M~F, Hol and All.
3. Highlight the box under the **Range** heading and press the  button to change the time range that the scheduled recording will take place.
  - The smallest time segment you can use is 15 minutes.
4. Highlight the box under the **Mode** heading and press the  button to change the recording mode that will be used.
  - Choose from: No Record, Time, Event and Time & Event.

When the DVR is in the No Record mode, it will not record during the preset day and time range as long as the **Panic** button is not pressed. Use the No Record mode when you do NOT want the DVR to record during certain times.

When the DVR is in the Time mode, the  icon displays at the top-left corner of the screen. The DVR will record and displays the  icon at the top-left corner of the screen during the scheduled times.

When the DVR is in the Event mode, the red  icon displays at the top-left corner of the screen. The DVR will record and displays the  icon at the top-left corner of the screen when any event occurs. When the DVR is in the Pre-Event recording mode, the yellow  icon displays when there is no event, and the DVR is not recording. When the DVR is in the Pre-Event mode, the red  and  display when any event occurs and the DVR starts recording.

When the DVR is in the Time & Event mode, the DVR will follow the Time settings and the  icon displays. The DVR follows the Event settings and the  icon displays.

5. Highlight the box under the **Channels** heading and press the  button to select which cameras will be recorded.
6. Highlight the box under the **Settings** heading and press the  button to define the recording settings.
  - You can set the ips and quality of the recording for any modes you set up in the **Mode** column. If you do not set the ips and quality in the **Settings** column, the DVR will follow the default settings. See below for details.
7. Highlight the box under the **X** heading and press the  button to delete the recording settings.
  - You will be asked to confirm that you want to delete the settings.
8. Highlight **Default...** and press the  button.
  - The **Default** screen appears.

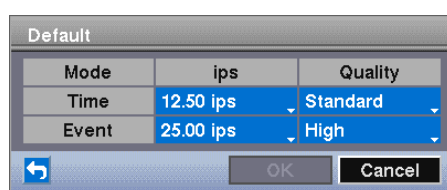





Fig. 21 Default setup screen

Highlighting boxes under **ips** and pressing the  button allows you to set the images per second for Time and Event recording. You can select from 0.10 to 25.0 (30.0 for NTSC) images per second.

Highlighting boxes under **Quality** and pressing the  button allows you to set the recorded image quality for Time and Event recording. You can select from: Very High, High, Standard and Low.

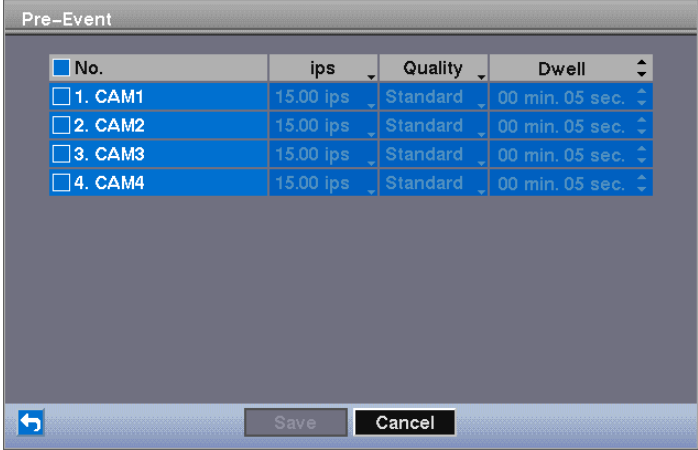
- You can save your changes by highlighting **OK** and pressing the  button.
- Selecting **Cancel** exits the screen without saving the changes.

### 8.5.3 Pre-Event screen

Highlight **Pre-Event** in the **Record** menu and press the  button.

→ The **Pre-Event** setup screen appears.

→ If you do not have **Event** set up in the **Record Schedule**, a message will display alerting you to this fact.



No.	ips	Quality	Dwell
<input type="checkbox"/> 1. CAM1	15.00 ips	Standard	00 min. 05 sec.
<input type="checkbox"/> 2. CAM2	15.00 ips	Standard	00 min. 05 sec.
<input type="checkbox"/> 3. CAM3	15.00 ips	Standard	00 min. 05 sec.
<input type="checkbox"/> 4. CAM4	15.00 ips	Standard	00 min. 05 sec.

Fig. 22 Pre-Event setup screen

When the DVR is in the Event Record mode it is possible to have it record images before the event occurs. The **Pre-Event** screen allows you to define how to handle pre-event recording.

You can turn individual cameras On or Off for pre-event recording. The image speed can be set from 0.10 to 25.00 ips (30.00 ips NTSC), and image quality can be selected from Very High, High, Standard and Low.

You can set the amount of time to record prior to the event by adjusting the dwell. You can set the dwell from 5 seconds to 30 minutes. The longer the dwell set, the fewer maximum ips can be set.



#### NOTE

When the DVR is in the Time or Time & Event mode, it ignores the pre-event settings and follows the time settings.

→ You can save your changes by highlighting **Save** and pressing the  button.

→ Selecting **Cancel** exits the screen without saving the changes.

## 8.6 Network setup

In the main screen, use the Left or Right arrow buttons to display the **Network** menu.



Fig. 23 Network menu

### 8.6.1 Network screen

Highlight **Network** in the **Network** menu and press the button.

→ The **Network** setup screen displays.

→ You will be able to change the **Network**, **Mail**, **Callback** and **Web Client** settings.

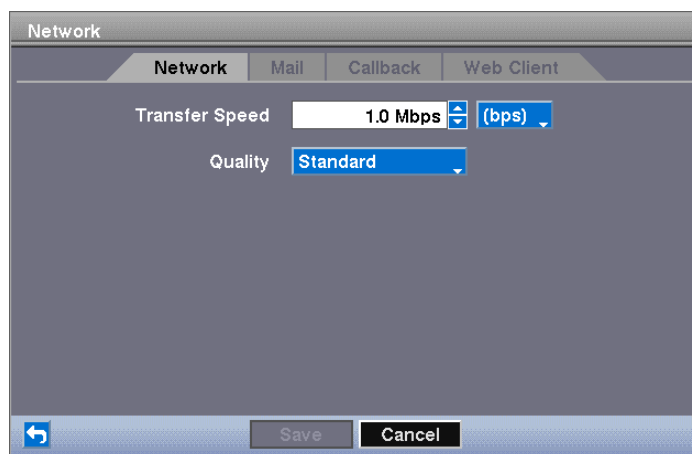


Fig. 24 Network setup screen

#### Network

1. Highlight the first box beside **Transfer Speed**.
2. Press the Up and Down arrow buttons to set the Transfer Speed from 50 Kbps to 100 Mbps.
3. Highlight the second box beside **Transfer Speed**.
  - You can select the unit of measure for the transfer speed between: bps and ips.
4. Press the button to set the transfer speed.
5. Highlight the box beside **Quality** and press the button.
  - You can select the quality from: Very High, High, Standard and Low.
6. Press the button to set the Quality.



#### NOTE

The higher **Quality** settings require higher **Transfer Speed** settings. The transfer speed you set is the maximum speed. Depending on the network environment, this speed may not be achieved.



**NOTE**

The local recording speed might be affected by various network bandwidth (Transfer Speed) conditions.

7. Highlight the **Mail** tab, and the **Mail** screen displays.

→ The DVR can be set up to send an email when an event occurs.

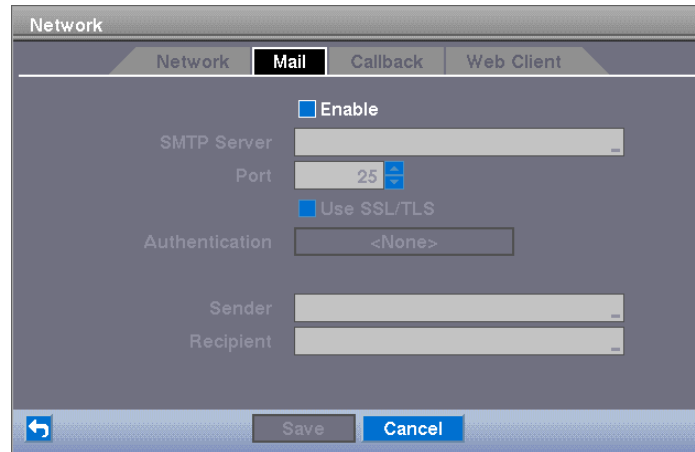


Fig. 25 Mail setup screen

**Mail**

1. Highlight **Enable** and press the button to toggle between On and Off.  
→ You will only be able to change the settings if **Mail** is enabled.
2. Highlight the box beside **SMTP Server** and press the button.  
→ A virtual keyboard appears that you can use to enter the IP address or domain name of the SMTP server.



**NOTE**

You will need to get the IP Address or domain name of the SMTP Server from your network administrator.



**NOTE**

You can use the domain name instead of IP address if you already set up the DNS Server when setting up the LAN.

3. Use the arrow buttons to enter the SMTP Server IP address obtained from your system administrator.
4. Highlight the box beside **Port** and press the button.
5. Use the arrow buttons to enter the SMTP Server port number obtained from your system administrator. The default port number is 25.
6. Highlight **Use SSL/TLS** and press the button to toggle between On and Off.  
→ When it is On, the DVR can send an email via an SMTP server requiring SSL (Secure Sockets Layer) authentication.
7. Highlight the box beside **Authentication** and press the button.  
→ An **Authentication** screen appears.
8. Highlight **Use** and press the button to toggle between On and Off.
9. Highlight the box beside **User/Password** and press the button.  
→ A virtual keyboard appears allowing you to enter the user ID and password.



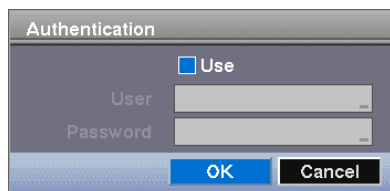


Fig. 26 Authentication setup screen

10. Highlight the box beside **Sender** and enter the sender's e-mail address.
11. Use the virtual keyboard to enter the e-mail address.

**NOTE**

The e-mail address must include the "@" character to be a valid address.

12. Highlight the box beside **Recipient** and enter the recipient's e-mail address.
13. Use the virtual keyboard to enter the e-mail address.
14. Highlight the **Callback** tab.
  - The **Callback** screen displays.
  - The DVR can be set up to contact a computer running RAS (Remote Administration System) when an event occurs.

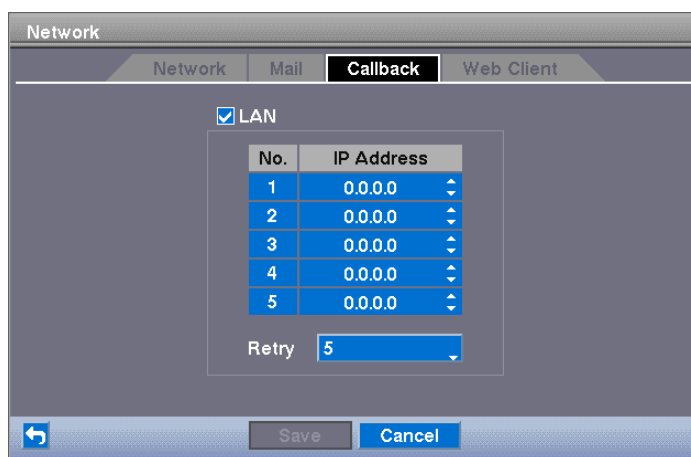


Fig. 27 Callback setup screen

**Callback**

1. Highlight **LAN** and press the button to toggle between On and Off.
  - When LAN is turned On you can change the IP addresses.
2. Highlight the **IP Address** box that you want to change and press the button.
3. Enter the IP address of the computer you want contacted during an event.
  - You can enter up to five IP addresses.
4. Highlight the box beside **Retry** and enter the number of times you would like the DVR to try contacting the computer running RAS.
  - You can select from 1 to 10 retries.
5. You can save your notification changes by highlighting **Save** and pressing the button.
  - Selecting **Cancel** exits the screen without saving the changes.
6. Highlight the **Web Client** tab.
  - The **Web Client** screen displays.

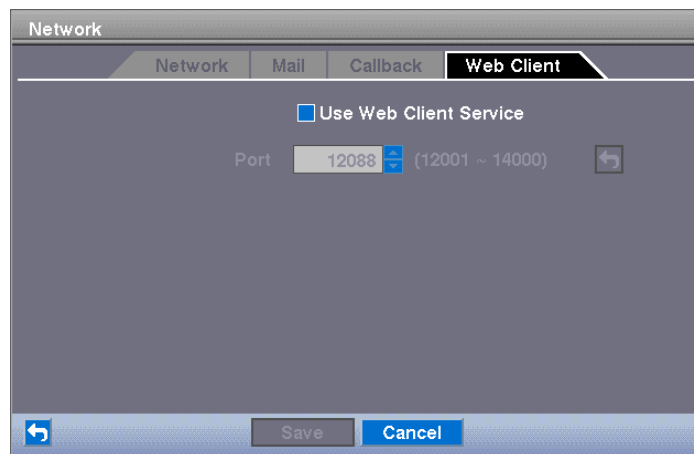


Fig. 28 Web Client setup screen

### Web Client

1. Highlight **Use Web Client Service** and press the button to toggle between On and Off.
  - See 12.3: Web Client for detailed descriptions of the Web Client service.
2. Highlight the box beside **Port** and press the button.
  - Set the port number used when accessing Web Client by using the Up and Down arrow buttons to increase or decrease the numbers.
  - You can save your Network changes by highlighting **Save** and pressing the button.
  - Selecting **Cancel** exits the screen without saving the changes.

## 8.6.2 LAN setup screen

Highlight **LAN** in the **Network** menu and press the button.

→ The **LAN** setup screen displays.

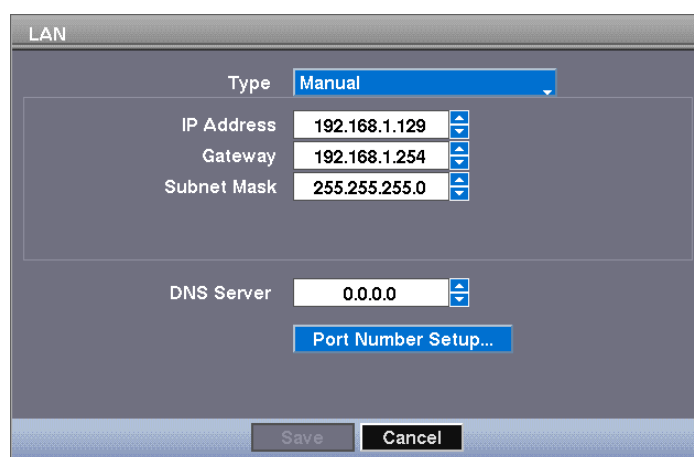


Fig. 29 LAN (Manual) setup screen

1. Highlight the box beside **Type** and press the button.
  - You can select the type of network configuration from: Manual, DHCP and ADSL (with PPPoE).
2. Select the desired type and press the button.
  - Selecting "Manual" from the **Type** allows you to set up LAN parameters manually.

**NOTE**

You will need to get the appropriate IP Address, Gateway and Subnet Mask from your network administrator.

3. Change the numbers by highlighting them and using the Up and Down arrow buttons to increase or decrease the number.

The factory default LAN settings are:

IP Address: 192.168.1.129

Gateway: 192.168.1.254

Subnet Mask: 255.255.255.0

4. Highlight the box beside **DNS Server**. Press the Up and Down arrow buttons to set the IP address of the DNS server.

5. Highlight the **Port Number Setup...** box and press the button.

→ The **Port Number Setup** screen appears.

**NOTE**

You will need to get the appropriate Port Numbers for each RAS and Web Client related program (Admin, Callback, Watch and Search) from your network administrator.

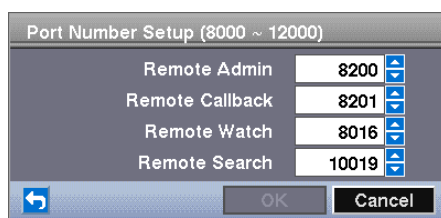


Fig. 30 Port Numbers setup screen

6. Change the numbers by highlighting them and using the Up and Down arrow buttons to increase or decrease the number.

The factory default port settings are:

Remote Admin: 8200

Remote Callback: 8201

Remote Watch: 8016

Remote Search: 10019

**NOTE**

The system restarts automatically after changing the port settings.

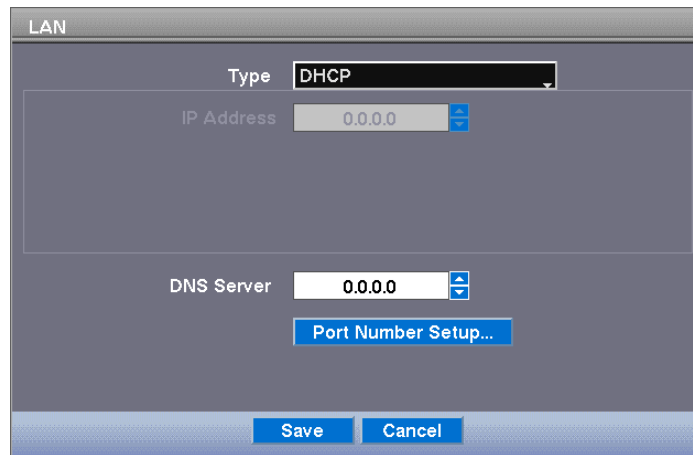
**NOTE**

Do NOT use the same port number for two different programs, otherwise, the DVR cannot be connected with the PC running RAS or Web Client.

**NOTE**

When changing the port settings, you must change the port settings on the PC running RAS or Web Client as well. Refer to the RAS manual for details.

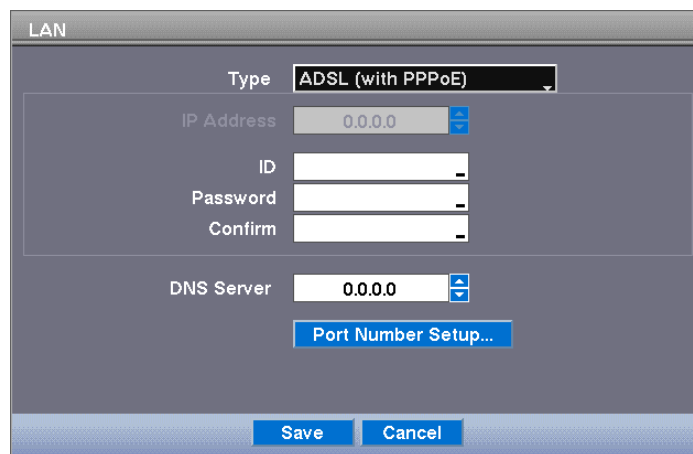
→ Selecting "DHCP" from the **Type** and highlighting the **Save** button reads the current IP address of the DVR configured by DHCP (Dynamic Host Configuration Protocol) network.



The screenshot shows the 'LAN' configuration window. At the top, the 'Type' is set to 'DHCP'. Below this, the 'IP Address' is set to '0.0.0.0'. Further down, the 'DNS Server' is also set to '0.0.0.0'. There is a 'Port Number Setup...' button. At the bottom, there are 'Save' and 'Cancel' buttons.



Fig. 31 LAN (DHCP) setup screen

→ Selecting "ADSL (with PPPoE)" allows you to set up the ADSL network.



The screenshot shows the 'LAN' configuration window with 'Type' set to 'ADSL (with PPPoE)'. The 'IP Address' is '0.0.0.0'. Below this, there are fields for 'ID', 'Password', and 'Confirm', each with a small keyboard icon to its right. The 'DNS Server' is set to '0.0.0.0'. There is a 'Port Number Setup...' button. At the bottom, there are 'Save' and 'Cancel' buttons.

Fig. 32 LAN (ADSL) setup screen

7. Highlight the box beside **ID** and press the  button.
  - A virtual keyboard appears allowing you to enter the ID for ADSL connection.
8. Highlight the box beside **Password** and press the  button.
  - A virtual keyboard appears allowing you to enter the password for ADSL connection.



**NOTE**

Entering the ID and Password and highlighting **OK** reads the current IP address of the DVR configured by the ADSL network.



**NOTE**

If the DVR is configured for DHCP or an ADSL network, the IP address of the DVR might change whenever the unit is turned on.

## 8.7 Event settings

Your DVR can be set to detect many different events. You can also determine how it reacts to these events.

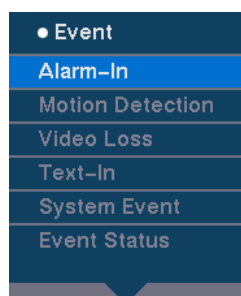


Fig. 33 Event menu

### 8.7.1 Alarm-In screen

Highlight **Alarm-In** in the **Event** menu and press the button.

→ The **Alarm-In** setup screen appears.

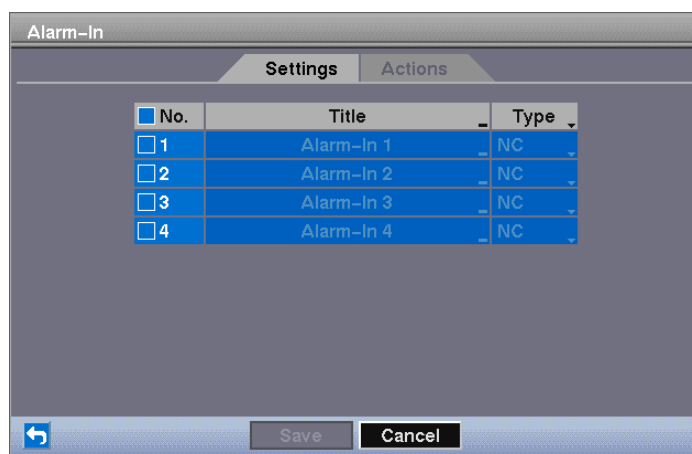


Fig. 34 Alarm-In Settings screen

The alarm terminal strip on the back of the DVR has inputs associated with each alarm. You can set up each input on the **Alarm-In** screen. You can turn each input On or Off by highlighting the alarm number and pressing the .

Each input can be given a title.

#### Settings

1. Highlight the desired **Title** box and press the button.
  - A virtual keyboard appears allowing you to enter a title name.
  - Each input can be set as NO (normally open) or NC (normally closed).
2. Highlight the **Actions** tab.
  - The **Actions** setup screen appears.

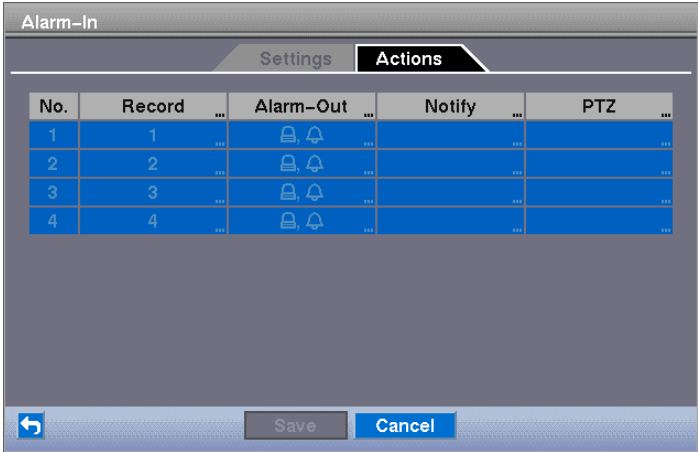


Fig. 35 Alarm-In Actions screen

You can set the actions the DVR will take whenever it senses an input on one of its alarm input connectors.

1. Highlight the desired box under the **Record** heading, and press the button.  
→ A list of cameras appears.
2. Select the cameras that you want the DVR to record whenever it detects an input on the associated alarm input.



**NOTE**

For the **Record** action, the camera you select should be set to the Event or Time & Event recording mode in the **Record Schedule** setup screen.

3. Highlight the desired box under the **Alarm-Out** heading, and press the button.
4. Select between Alarm Output and Beep (DVR's internal buzzer) that you would like to activate whenever the DVR detects an input on the associated alarm input.



**NOTE**

For the **Alarm-Out** action, the alarm output and beep you select should be set to the Event mode in the **Alarm-Out** setup screen (**Schedule** tab).

5. Highlight the desired box under the **Notify** heading, and press the button.  
→ The **Alarm-In Notify** menu appears.

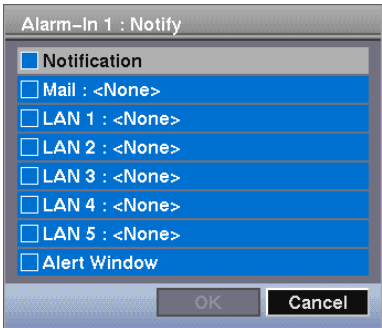




Fig. 36 Alarm-In Notify menu

You can toggle the entire list On and Off by highlighting **Notification** and pressing the button. You can toggle the individual items On and Off by highlighting that item and pressing the button.

6. Highlight **OK** and press the  button to accept your changes.

**NOTE**

For the **Notify** action, the notify item you select should be enabled in the **Notification** setup screen and the DVR should be registered in the RAS (Remote Administration System).

7. Highlight the desired box under the **PTZ** heading, and press the  button.
- A list of PTZ presets appear.
8. Select the preset position for each PTZ camera, where you want PTZ cameras to move to whenever the DVR detects an input on the associated alarm input.
- You can save your **Alarm-In** changes by highlighting **Save** and pressing .
  - Selecting **Cancel** exits the screen without saving the changes.

## 8.7.2 Motion Detection screen

Highlight **Motion Detection** in the **Event** menu and press the  button.

→ The **Motion Detection** setup screen appears.

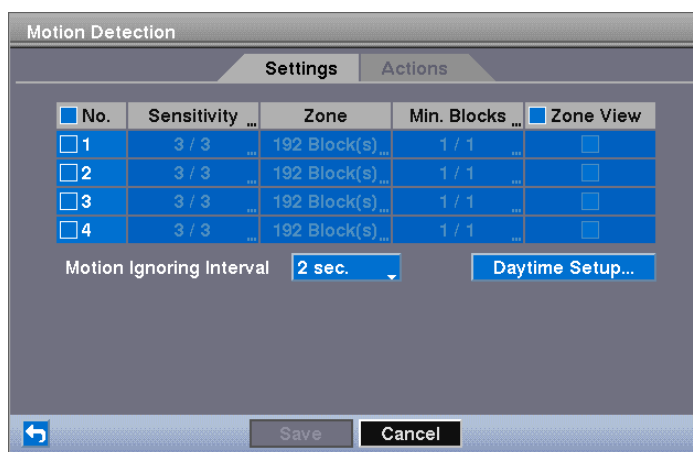



Fig. 37 Motion Detection Settings screen

### Settings

Your DVR has built-in video motion detection. Video motion detection can be turned On or Off for each camera.

Highlighting the box under the **Sensitivity** heading and pressing the  button allows you to adjust the DVR's sensitivity to motion for **Daytime** and **Nighttime** independently. There are five settings with 1 being the least sensitive and 5 being the most sensitive.

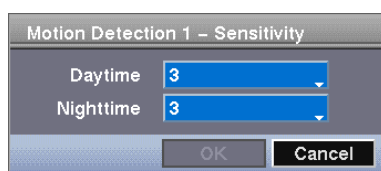



Fig. 38 Motion Detection Sensitivity screen

You can adjust the minimum number of detection blocks that must be activated to trigger a motion alarm. Highlighting the box under the **Min. Blocks** heading and pressing the  button allow you to adjust the minimum number of detection blocks for **Daytime** and **Nighttime** independently. Smaller numbers provide greater sensitivity because fewer detection blocks must be activated.

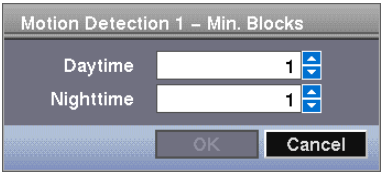



Fig. 39 Motion Detection Min. Blocks screen

Turning **Zone View** On will allow you to observe how the DVR is reacting to motion. When in the motion viewing mode, the detection zone of video will be displayed in green. Any detected motion within the zone will be displayed in red.

You can define the area of the image where you want to detect motion; e.g., a doorway. Highlight the box under the **Zone** heading, and press the  button.

→ The **Motion Detection Zone** screen displays.

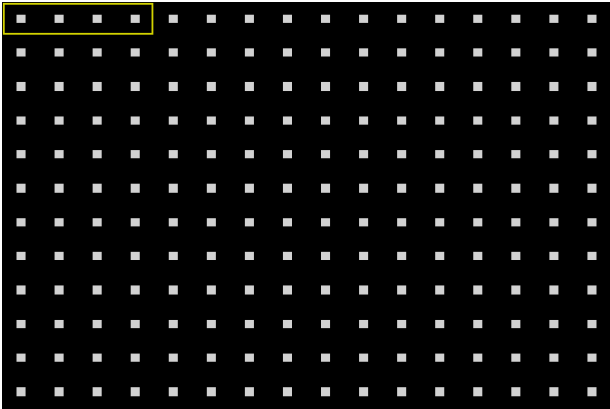


Fig. 40 Motion Detection Zone screen

The **Motion Detection Zone** screen is laid over the video for the selected camera. You can set up motion detection zones by selecting or clearing blocks.



**NOTE**

You can set up motion zones one block at a time in groups of 4 individual block groups. A block group is positioned within the image area using the Up and Down arrow buttons, and individual blocks within the block groups are selected or cleared using the camera buttons.


Press the  button to display the menu screen. The menu on the setup screen has the following functions:



Fig. 41 Motion Detection Zone menu



<b>Select</b>	Activates highlighted blocks to detect motion.
<b>Clear</b>	Deactivates highlighted blocks so that they will not detect motion.
<b>Reverse</b>	Activates inactive highlighted blocks and deactivates active highlighted blocks.
<b>Select All</b>	Activates all blocks to detect motion.
<b>Clear All</b>	Deactivates all blocks so that they will not detect motion.
<b>Reverse All</b>	Activates inactive blocks and deactivates active blocks.
<b>OK</b>	Accepts changes and closes Zone setup.
<b>Cancel</b>	Exits Zone setup without saving changes.

You can control excessive event logging and remote notification of motions detected after the motion dwell time by adjusting the motion ignoring dwell intervals.

Highlight the box beside **Motion Ignoring Interval** and press the  button.


→ A list of intervals ranging from 1 to 5 seconds or "Never" appears.

→ The DVR will not log and notify motion events occurred during the preset interval range.



#### NOTE

The record action for motion events will not be affected by the **Motion Ignoring** function.

Highlighting **Daytime Setup** and pressing the  button allow you to set up the **Daytime** range.

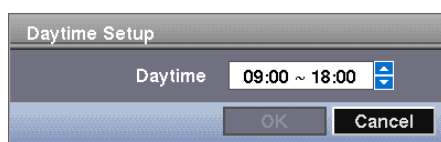



Fig. 42 Daytime Setup screen

1. Highlight the box beside **Daytime** and press the  button.
2. Use the Up and Down arrow buttons to set the **Daytime** range.
  - The DVR will consider the remaining time range as the Nighttime.
3. Highlight the **Actions** tab.
  - The **Motion Detection Actions** screen displays.

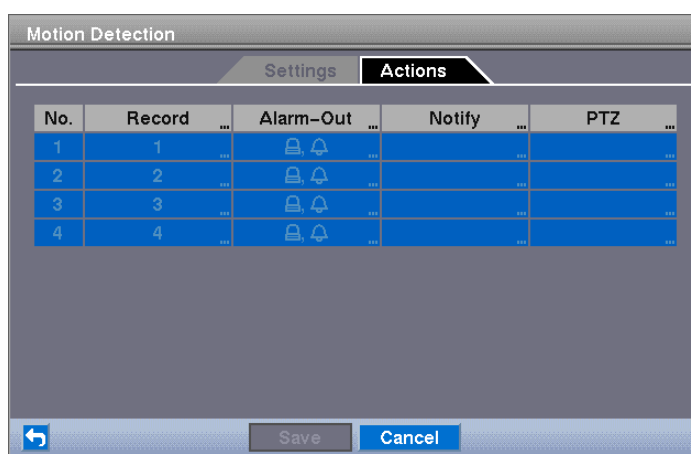


Fig. 43 Motion Detection Actions screen

The DVR can be set to react to motion detection differently for each camera. Each camera can be associated with another camera, trigger an Alarm-Out connector, sound the DVR's internal buzzer, notify a number of different devices, and/or move PTZ cameras to preset positions.



**NOTE**

You can associate multiple cameras with a camera that detects motion.

1. Highlight the box under the **Record** heading and press the button.  
→ A list of cameras appears.  
You can associate as many cameras with that camera as you wish. If the DVR detects motion on the selected camera, it starts recording video from all the associated cameras.



**NOTE**

For the **Record** action, the camera you select should be set to the Event or Time & Event recording mode in the **Record Schedule** setup screen.

2. Highlight the box under the **Alarm-Out** heading and press the button.
3. Select between Alarm Output and Beep (DVR's internal buzzer) that you would like to activate and to sound whenever the DVR detects motion on the selected camera's input.



**NOTE**

For the **Alarm-Out** action, the alarm output and beep you select should be set to the Event mode in the **Alarm-Out** setup screen (**Schedule** tab).

4. Highlight the box under **Notify** heading and press the button.  
You can toggle the entire list On and Off by highlighting **Notification** and pressing the button. You can toggle the individual items On and Off by highlighting that item and pressing the button.
5. Highlight **OK** and press the button to accept your changes.



**NOTE**

For the **Notify** action, the notify item you select should be enabled in the **Notification** setup screen and the DVR should be registered in the RAS (Remote Administration System).

6. Highlight the desired box under the **PTZ** heading, and press the button.  
→ A list of PTZ presets appear.
7. Select the preset position for each PTZ camera, where you want PTZ cameras to move to whenever the DVR detects motion on the selected camera's input.  
→ You can save your **Motion Detection** changes by highlighting **Save** and pressing the button.  
→ Selecting **Cancel** exits the screen without saving the changes.

### 8.7.3 Video Loss screen

Highlight **Video Loss** in the **Event** menu and press the  button.

→ The **Video Loss** setup screen appears.

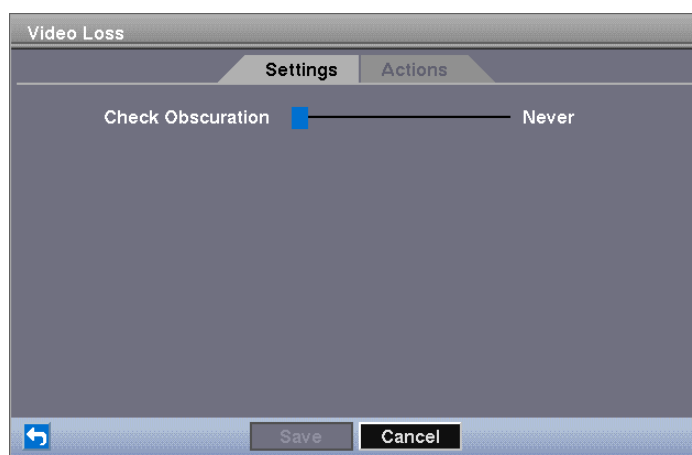


Fig. 44 Video Loss Settings screen

The DVR checks to see if anything is obscuring the camera.

#### Settings

1. Highlight the slider bar beside **Check Obscuration**, and use the Left and Right arrow buttons to adjust the setting.
  - The sensitivity can be set from "Never" to 15 (extremely sensitive).
2. Highlight the **Actions** tab.
  - The **Video Loss Actions** screen displays.

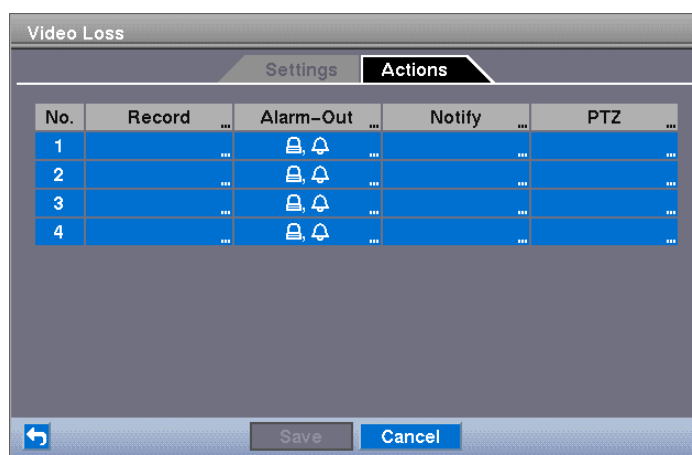


Fig. 45 Video Loss Actions screen

The DVR can be set to react to video loss differently for each camera. Each camera can be associated with another camera, trigger an Alarm-Out connector, sound the DVR's internal buzzer, notify a number of different devices, and/or move PTZ cameras to preset positions.

1. Highlight the box under the **Record** heading and press the  button.
  - A list of cameras appears.

You can associate as many cameras with that camera as you wish. If the DVR detects video loss on the selected camera, it starts recording video from all the associated cameras.



**NOTE**

For the **Record** action, the camera you select should be set to the Event or Time & Event recording mode in the **Record Schedule** setup screen.

2. Highlight the box under the **Alarm-Out** heading and press the button.
3. Select between Alarm Output and Beep (DVR's internal buzzer) that you would like to activate and to sound whenever the DVR detects video loss on the selected camera.



**NOTE**

For the **Alarm-Out** action, the alarm output and beep you select should be set to the Event mode in the **Alarm-Out** setup screen (**Schedule** tab).

4. Highlight the box under the **Notify** heading and press the button.  
You can toggle the entire list On and Off by highlighting **Notification** and pressing the button. You can toggle the individual items On and Off by highlighting that item and pressing the button.
5. Highlight **OK** and press the button to accept your changes.



**NOTE**

For the **Notify** action, the notify item you select should be enabled in the **Notification** setup screen and the DVR should be registered in the RAS (Remote Administration System).

6. Highlight the desired box under the **PTZ** heading, and press the button.  
→ A list of PTZ presets appear.
7. Select the preset position for each PTZ camera, where you want PTZ cameras to move to when the DVR detects video loss on the selected camera's input.  
→ You can save your **Video Loss** changes by highlighting **Save** and pressing the button.  
→ Selecting **Cancel** exits the screen without saving the changes.

## 8.7.4 Text-In screen

Highlight **Text-In** in the **Event** menu and press the  button.

→ The **Text-In** setup screen appears.

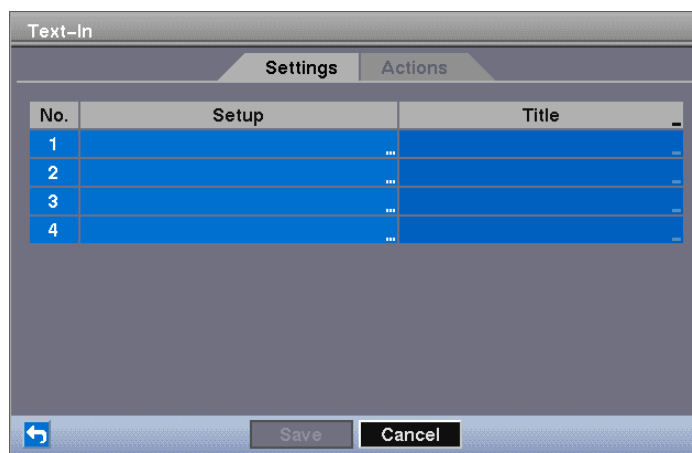



Fig. 46 Text-In Settings screen

### Settings

The DVR can be set to react to text input from devices such as ATMs (Automated Teller Machines) and POS (Point of Sale; i.e., cash registers). This screen allows you to configure the DVR for each text-in device.

- Highlight the box under the **Setup** heading, and press the  button.
  - Selecting the **Setup** heading changes all the parameters excluding **Port** settings of all the text input channels.



#### NOTE

The system performance might be affected when a large quantity of text inputs are detected from several channels at the same time.

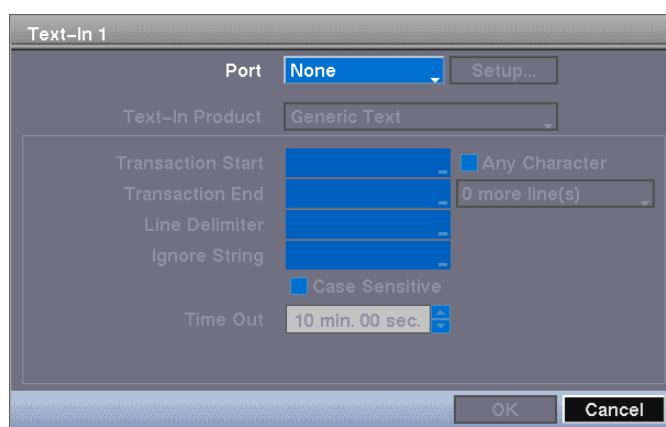


Fig. 47 Text-In Device Settings screen

- Highlight the box beside **Port**, and press the  button.
- Select from None, RS232, RS485 and USB-Serial (1~4).



#### NOTE

If you have set the Port as None, you will not be able to make any changes to the screen.



**NOTE**

When using the USB to serial text-in device, do **not** remove the USB cable from the port while the system is running.

4. Highlight **Setup...**, and press the button.
5. Use the ATM or POS manufacturer's recommended settings when configuring the RS232, RS485 or USB-Serial ports.
6. Highlight the box beside **Text-In Product**, and press the button.
7. Select your device from the list.



**NOTE**

The following description is for a Generic Text Device. The screen changes for different types of text input devices, and there will be different parameter boxes for you to enter information.

8. Highlight the box beside **Transaction Start**, and press the button.
9. Use the virtual keyboard to enter the **Transaction Start** string. Refer to the device manufacturer's documentation for the text string that the device first sends when a transaction starts.
  - If you want the DVR to react to any character sent from the text input device, you will want to turn On **Any Character**.
10. Highlight **Any Character**, and press the button to toggle between On and Off.



**NOTE**

If **Any Character** is turned On, you will not be able to enter any text in the **Transaction Start** box.

11. Highlight the box beside **Transaction End**, and press the button.
12. Use the virtual keyboard to enter the **Transaction End** string.
 

Refer to the device manufacturer's documentation for the text string that the device sends when a transaction ends.
13. Highlight the **more line(s)** box, and press the button.
14. Select the number of additional lines of text that you want the DVR to record.
  - You can choose from 0 to 10.
15. Highlight the box beside **Line Delimiter**, and press the button.
16. Use the virtual keyboard to enter the character(s) that the device uses to indicate the end of a line.
  - Special characters can be created using ^ and a capital letter; e.g., ^J for NL (New Line), ^M for CR (Carriage Return).

Refer to the device manufacturer's documentation for Line Delimiter character(s).
17. Highlight the box beside **Ignore String**, and press the button.
18. Use the virtual keyboard to enter any strings of text that you want the DVR to ignore.
 

Refer to the device manufacturer's documentation for text strings that the device sends during transactions, so you will know which ones you do not want recorded.
19. Highlight the **Case Sensitive** box, and press the button to toggle between On and Off.

Refer to the device manufacturer's documentation to determine if the text strings are Case Sensitive.

- If the device distinguishes between upper and lower case letters, make certain the **Case Sensitive** box is turned On.

20. Highlight the box beside **Time Out**, and press the  button.

21. Set the length of time to wait for the new text string.

- The DVR will consider a transaction complete if no new text strings are entered between the last text input and the dwell time out. You can adjust the Time Out dwell from 5 seconds to 15 minutes.

22. Highlight the **Actions** tab.

- The **Text-In Actions** screen displays.

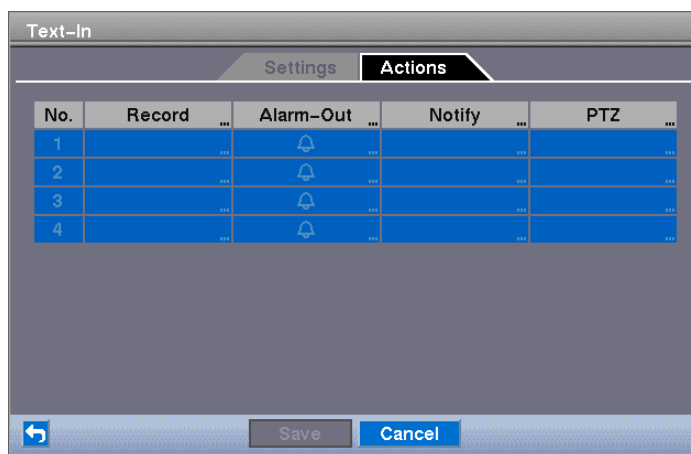


Fig. 48 Text-In Actions screen

The DVR can be set to react to text input. Text input can be associated with cameras, trigger an Alarm-Out connector, sound the DVR's internal buzzer, notify a number of different devices, and/or move PTZ cameras to preset positions.

1. Highlight the box under the **Record** heading and press the  button.

- A list of cameras appears.

You can associate as many cameras with the Text Input as you wish. If the DVR detects text input, it starts recording video from all the associated cameras.



#### NOTE

For the **Record** action, the camera you select should be set to the Event or Time & Event recording mode in the **Record Schedule** setup screen.


2. Highlight the box under the **Alarm-Out** heading and press the  button.



3. Select between Alarm Output and Beep (DVR's internal buzzer) that you would like to activate and to sound whenever the DVR detects text input.



#### NOTE

For the **Alarm-Out** action, the alarm output and beep you select should be set to the Event mode in the **Alarm-Out** setup screen (**Schedule** tab).



4. Highlight the box under the **Notify** and press the  button.

You can toggle the entire list On and Off by highlighting **Notification** and pressing the  button. You can toggle the individual items On and Off by highlighting that item and pressing the  button.

5. Highlight **OK** and press the  button to accept your changes.

**NOTE**

For the **Notify** action, the notify item you select should be enabled in the **Notification** setup screen and the DVR should be registered in the RAS (Remote Administration System).

6. Highlight the desired box under the **PTZ** heading, and press the  button.
  - A list of PTZ presets appear.
7. Select the preset positions for each PTZ camera, where you want PTZ cameras to move to when the DVR detects text input.
  - You can save your **Text-In** changes by highlighting **Save** and pressing the  button.
  - Selecting **Cancel** exits the screen without saving the changes.

### 8.7.5 System Event screen

Highlight **System Event** in the **Event** menu and press the  button.

→ The **System Event** setup screen appears.

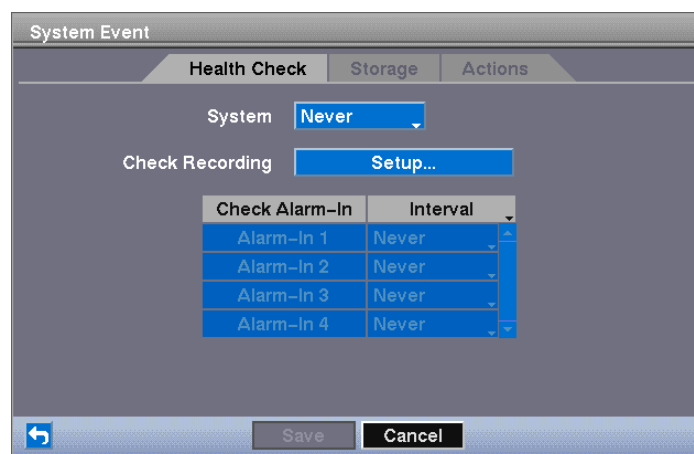






Fig. 49 Health Check screen

#### Health Check

The DVR can be configured to run self-diagnostics and report the results.

Highlighting the box beside **System** and pressing the  button allows you to select the interval that you want the DVR to run self-diagnostics on the system. You can select from 1 hr. to 30 days or "Never".

1. Highlight the **Setup...** box beside **Check Recording** and press the  button.
  - The **Check Recording** screen appears.
2. Highlighting **Schedule On** and pressing the  button toggles On and Off.
  - When set to On, you can select the day, time range and interval that you want the DVR to run self-diagnostics on the recorder. The **Interval** can be selected from 1 min. to 7 days or "Never". The  box allows you to delete a check recording schedule.



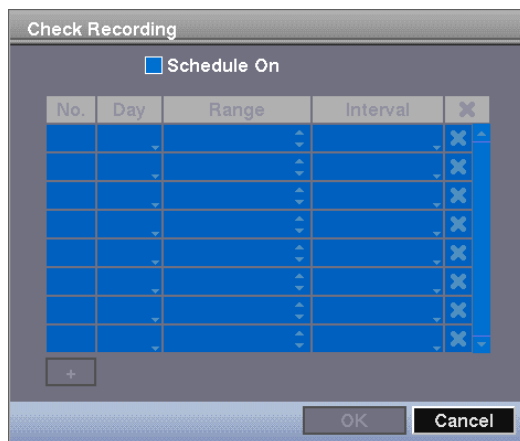


Fig. 50 Check Recording screen

Highlighting the box under the **Interval** heading beside each alarm-in and pressing the button allows you to change the interval that you want the DVR to run self-diagnostics on Alarm Inputs. You can select from 1 hr. to 30 days or "Never".

3. Highlight the **Storage** tab and the **Storage** screen displays.

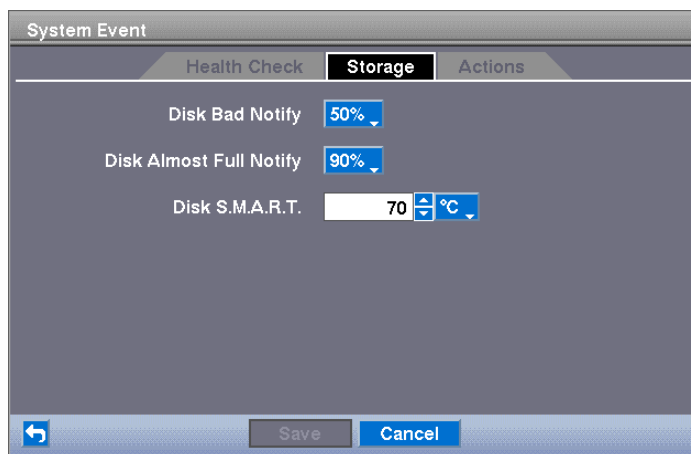


Fig. 51 Storage screen

### Storage

1. Highlight the box beside **Disk Bad Notify**, and press the button.
  - Select percentage level of bad disk sectors at which you want the DVR to trigger an alert. Percentage levels range from 10% to 90%.
2. Highlight the box beside **Disk Almost Full Notify**, and press the button.
  - Select the percentage level of disk usage at which you want the DVR to trigger an alert. Percentage levels range from 80% to 99%.
3. Highlight the first box beside **Disk S.M.A.R.T.**, and press the button.
4. Use the Up and Down arrow buttons to scroll through the numbers. Refer to the hard disk drive manufacturer's documentation for the correct temperature setting.
  - If the temperature of hard disk drive exceeds the defined threshold, the system triggers an alert.
5. Highlight the second box beside **Disk S.M.A.R.T.**, and press the button.
6. Select either **°C (Celsius)** or **°F (Fahrenheit)**, and press the button.
7. Highlight the **Actions** tab and the **System Event Actions** screen displays.

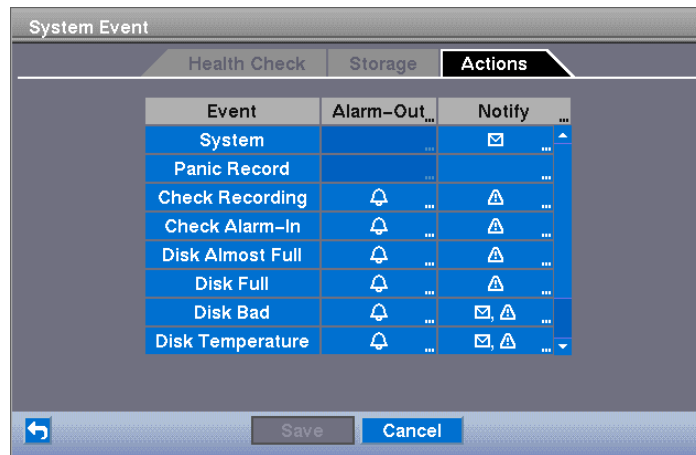


Fig. 52 System Event Actions screen

### Actions

The DVR can be set to react to system events. System events can activate the Alarm-Out connector, sound the DVR's internal buzzer, and/or notify a number of different devices.

1. Highlight the **Alarm-Out** box beside the desired event (Check Recording, Check Alarm-In, Disk Almost Full, Disk Full, Disk Bad, Disk Temperature, or Disk S.M.A.R.T.), and press the button.
2. Select between Alarm Output connector and the DVR's internal buzzer that you would like to activate and to sound whenever the DVR detects event.



#### NOTE

The **Alarm-Out** action cannot be set to System and Panic Record events.

3. Highlight the **Notify** box beside the desired event (System, Panic Record, Check Recording, Check Alarm-In, Disk Almost Full, Disk Full, Disk Bad, Disk Temperature, or Disk S.M.A.R.T.), and press the button.
  - You can toggle the entire list On and Off by highlighting **Notification** and pressing the button. You can toggle the individual items On and Off by highlighting that item and pressing the button.
4. Highlight **OK** and press the button to accept your changes.



#### NOTE

**Mail notify** is the only option available for the System event.




#### NOTE

For the **Notify** action to work, the DVR should be registered in the RAS (Remote Administration System).

- You can save your **System Event** changes by highlighting **Save** and pressing the button.
- Selecting **Cancel** exits the screen without saving the changes.

## 8.7.6 Event status

Highlight **Event Status** in the **Event** menu and press the  button to display the **Event Status** screen.

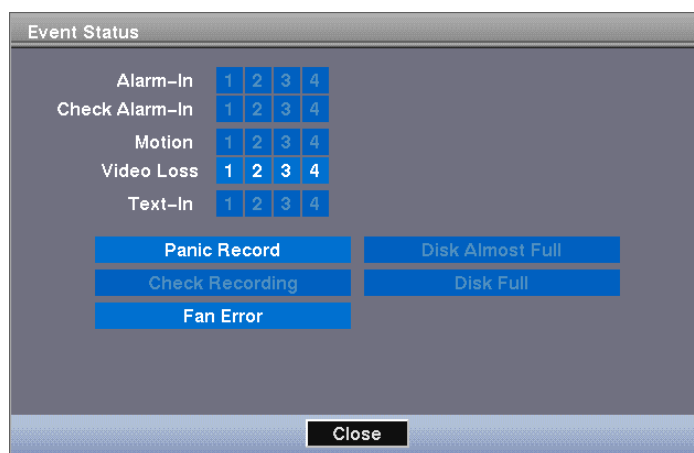


Fig. 53 Event Status screen

The **Event Status** screen displays the status of the DVR's systems and inputs. Events will be highlighted, and related channels or events will flicker for five seconds when detected.

**Alarm-In**, **Motion**, **Video Loss** and **Text-In** will be highlighted when each event is detected based on the settings you made in the **Alarm-In**, **Motion Detection** and **Text-In** setup screen on the **Event** menu.

**Panic Record** will be highlighted while the DVR is in the panic recording mode.

**Check Alarm-In** and **Check Recording** will be highlighted when each event is detected based on the settings you made in the **System Event** setup screen on the **Event** menu.

**Fan Error** will be highlighted when the cooling fan to the left of the power cord on the rear panel is not working for more than four seconds.

**Disk Almost Full** will be highlighted when the DVR is not in the Recycle mode and the level of disk usage reaches the Disk Almost Full percentage you made in the **System Event** setup screen on the **Event** menu.

**Disk Full** will be highlighted when the DVR is not in the Recycle mode and all available storage space has been used.

## 8.8 Display

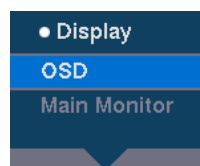


Fig. 54 Display Menu

### 8.8.1 OSD screen

Highlight **OSD** in the **Display** menu and press the button.

→ The **OSD** screen allows you to select what information will be displayed on the monitor.

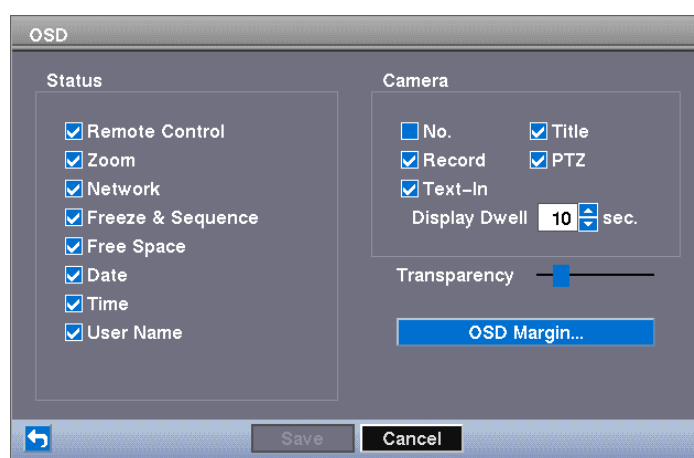



Fig. 55 OSD screen

Highlighting an item and pressing the button toggles that item On and Off. When an item is On, there is a checkmark in the box beside it. The following items can be turned On or Off:

<b>Remote Control</b>	The icon  displays when the DVR can be controlled by the infrared remote control.
<b>Zoom</b>	The icon  displays on the enlarged video.
<b>Network</b>	The icon  displays when the unit is connected to a network via Ethernet.
<b>Freeze &amp; Sequence</b>	The icon  displays while in the Freeze mode, and the icon  displays while in the Sequence mode.
<b>Free Space</b>	The icon  displays when the DVR is in the Recycle mode, and the percentage of available storage space displays when the DVR is not in the Recycle mode.
<b>Date/Time</b>	The current date and time information displays.
<b>User Name</b>	The name of the current user logged in displays.
<b>Camera No.</b>	The camera number displays at the top-left corner of each camera screen.
<b>Camera Title</b>	The camera title displays at the top-left corner of each camera screen.
<b>Record</b>	The record related icons display on each camera screen.
<b>PTZ</b>	The icon  displays on each PTZ camera screen.
<b>Text-In</b>	The text input strings display on the screen. You can adjust the display dwell time(s) for the text input strings displayed on the screen by highlighting <b>Display Dwell</b> and using the Up and Down arrow buttons.

You can adjust the transparency of the setup screens by highlighting **Transparency** and using the Left and Right arrow buttons.

Highlighting **OSD Margin...** and pressing the  button displays how OSD text will be displayed on the monitor. You can adjust the horizontal and vertical margins so that text and icons will not be hidden beyond the edges of the monitor.

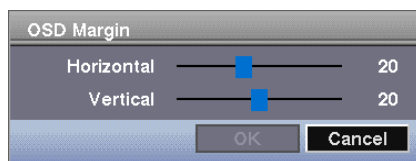


Fig. 56 OSD Margin screen

## 8.8.2 Main Monitor screen

Highlight **Main Monitor** in the **Display** menu and press the  button.

→ The **Main Monitor** screen appears.

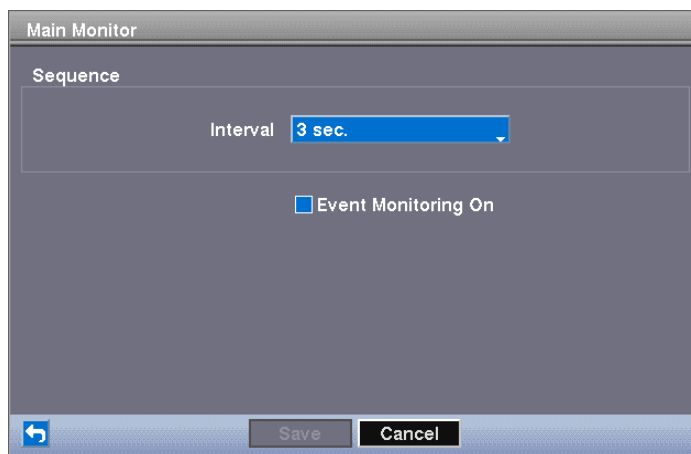



Fig. 57 Main Monitor screen


You can adjust the display dwell time by highlighting the box beside **Interval** and pressing the  button.

→ You can select dwell intervals ranging from 1 second to 1 minute.

Highlight **Event Monitoring On** and press the  button.

→ Pressing the  button toggles between On and Off.

→ When it is On, the DVR will display the camera associated with the event when an event occurs.

→ You can save your Display settings by highlighting **Save** and pressing the  button.

→ Selecting **Cancel** exits the screen without saving the changes.

## 8.9 Configuring devices

You can configure the video, alarm and remote control devices connected to the DVR.

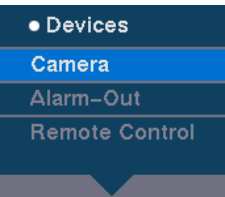


Fig. 58 Devices menu

### 8.9.1 Camera setup screen

Highlight **Camera** in the **Devices** menu and press the button.

→ The **Camera** setup screen appears.

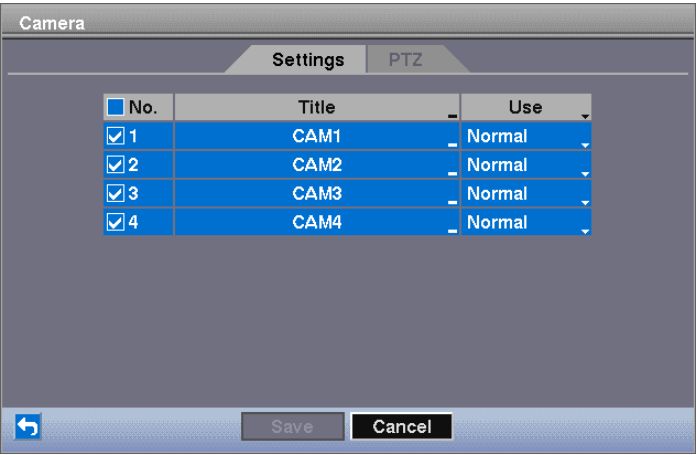


Fig. 59 Camera setup screen

You can turn the camera number On or Off, and you can change the **Title** of each camera using the virtual keyboard. You can also determine which cameras will display on the monitors by selecting Normal, Covert 1 or Covert 2 from a drop-down list in the **Use** column.



#### NOTE

When selecting the Covert 1, the DVR displays the camera title and status icons on the covert video. When selecting the Covert 2, the DVR displays only camera title on the covert video.



#### NOTE

A user who does not have Covert Camera View authority, the user cannot view video from cameras set to Covert 1 or Covert 2 in both the live monitoring and playback modes.

1. Highlight the **PTZ** tab, and the **PTZ** setup screen displays.

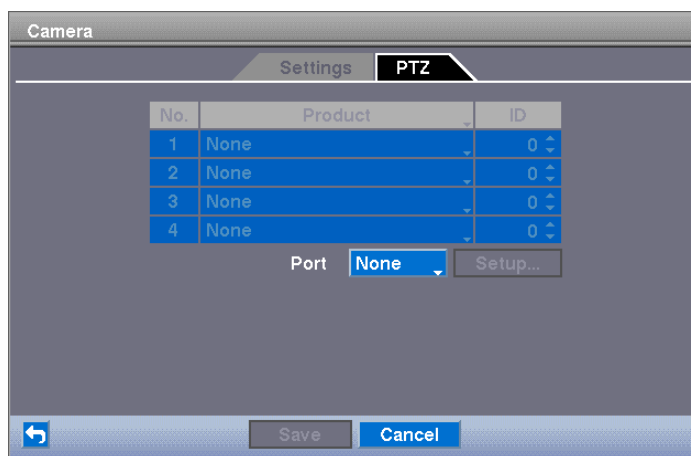


Fig. 60 Camera PTZ setup screen

**NOTE**

You will only be able to set up PTZ devices if the PTZ port is set to RS232 or RS485.

2. Highlight the box in the **Product** column for the PTZ camera you wish to configure and press the button.
  - A list of PTZ devices appears.
3. Select your camera from the list and press the button.
  - You will need to connect the camera to the RS232 or RS485 connector on the back of the DVR following the camera manufacturer's instructions.

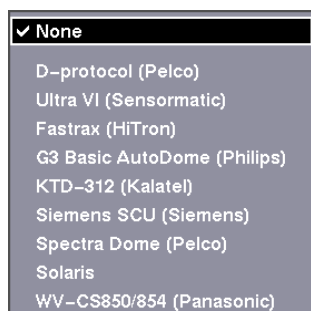


Fig. 61 PTZ Device list

You can assign IDs to each camera by highlighting the box under the **ID** heading and pressing the button.

4. Change the number by highlighting it and using the Up and Down arrow buttons to increase and decrease the number.
  - The PTZ ID number can be set from 0 to 256.
5. Highlight the **Setup...** box and press the button.
  - The **Port Setup** window appears.

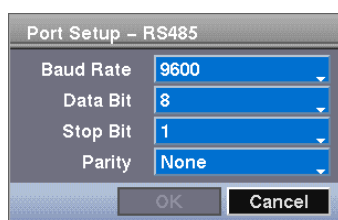



Fig. 62 Port Setup window

6. Configure the port's setting based on the PTZ camera manufacturer's instructions.
  - You can save your **Camera** changes by highlighting **OK** and pressing the  button.
  - Selecting **Cancel** exits the screen without saving the changes.

## 8.9.2 Alarm-Out screen

Highlight **Alarm-Out** in the **Devices** menu and press the  button.

- The **Alarm-Out** screen allows you to change the settings and establish a schedule for each alarm output from the DVR.

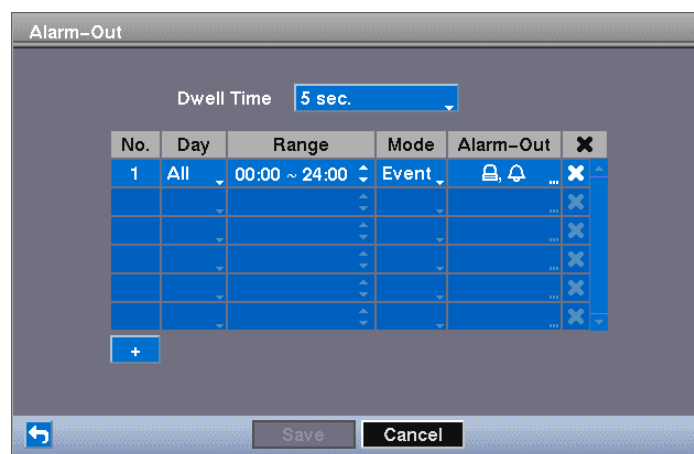





Fig. 63 Alarm-Out Settings screen

Highlighting the box beside **Dwell Time** and pressing the  button allow you to set the dwell time of the alarm output. Dwell times range from 5 seconds to 15 minutes.

You can add and edit alarm output schedules on this screen. Highlight the "+" and press the  button to add a schedule. Highlighting the boxes under the column heading and pressing the  button allow you to edit the information in those boxes.


The **Day** box allows you to select the days that the alarm schedule will be active. The choices are: Sun, Mon, Tue, Wed, Thu, Fri, Sat, M~F, Hol and All.

The **Range** box allows you to set the time that the alarm schedule will be active in 15-minute increments from 00:00 to 24:00.

The **Mode** box allows you to set how the alarm reacts during the scheduled time. When set to On, the Alarm-Out is active during the scheduled time. When set to Event, the Alarm-Out is only active when there is an Event during the scheduled time.

The **Alarm-Out** box allows you to select between Alarm Output and Beep (DVR's internal buzzer).

The **X** box allows you to delete an alarm output schedule. You will be asked to confirm whether or not you really wish to delete the schedule.

- You can save your **Alarm-Out** changes by highlighting **Save** and pressing the  button.
- Selecting **Cancel** exits the screen without saving the changes.



### 8.9.3 Remote Control screen

Highlight **Remote Control** in the **Devices** menu and press the  button.

→ The **Remote Control** setup screen allows you to select a port and make correct settings for a remote keyboard.

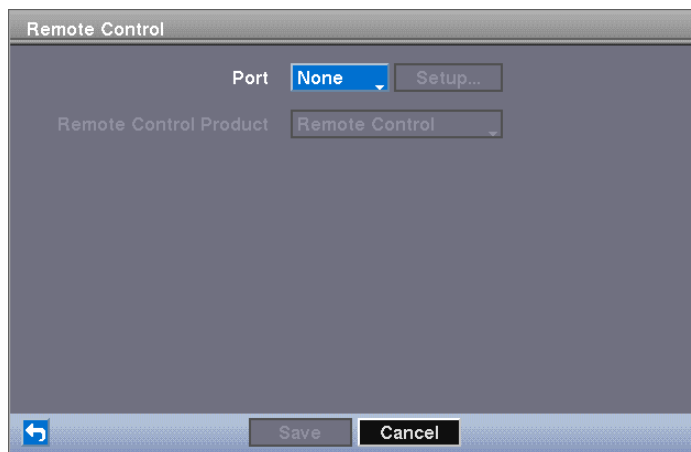



Fig. 64 Remote Control setup screen

1. Highlight the box beside **Port** and select from None, RS232 and RS485.
  - If the RS232 port and RS485 port are in use for PTZ control, networking or text input, the remote keyboard cannot be configured.
2. Highlight **Setup...** and select the correct Baud Rate, Parity, Data Bits and Stop Bits for the device you are connecting to the DVR.
3. Highlight the box beside **Remote Control Product** and select the device from the list.
  - You can save your **Remote Control** settings by highlighting **Save** and pressing the  button.
  - Selecting **Cancel** exits the screen without saving the changes.

## 8.10 Storage screen

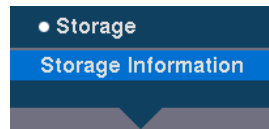


Fig. 65 Storage Menu

### Storage Information screen

Highlight **Storage Information** in the **Storage** menu and press the  button.

→ The **Storage Information** setup screen appears and displays information about the DVR's storage devices.

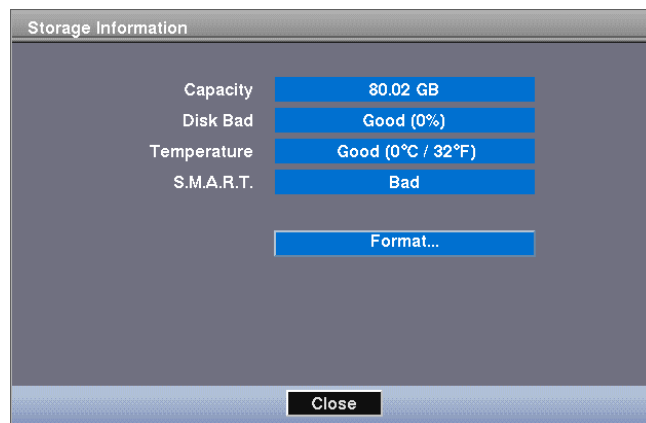


Fig. 66 Storage Information screen

The capacity of the storage device is displayed in the box beside **Capacity**.

The box beside **Disk Bad** displays the percentage of bad sectors. "Not formatted" indicates the device is not formatted.

The box beside **Temperature** displays the temperature of the storage device.

The box beside **S.M.A.R.T.** displays "Good", "Bad" or "N/A", depending on storage conditions:

<b>Good</b>	The storage condition is normal.
<b>Bad</b>	Data cannot be written on or read from the storage device.
<b>N/A</b>	Storage conditions are normal, however, the S.M.A.R.T. monitoring is not working or supported.




#### NOTE


When the storage condition is "Bad", the **Event Status – Storage** screen displays and you can check the storage condition for details. Once the "Bad" message displays, replacing the hard disk drive is recommended, usually within 24 hours.



#### NOTE

**Temperature** and **S.M.A.R.T.** information will be available only for internal hard disk drives supporting the SMART (Self-Monitoring Analysis and Reporting Technology) monitoring program.

"**Not Formatted**" displays in the upper part of the **Format...** box if the hard disk drive has not been formatted. Highlight the **Format...** box and press the  button to format the device for recording.

→ Selecting **Close** and pressing the  button exits the screen.

## 8.11 System

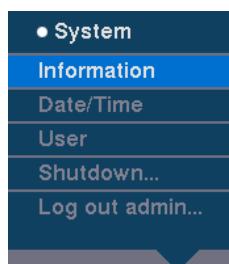


Fig. 67 System menu

### 8.11.1 Information screen

Highlight **Information** in the **System** menu and press the button.

→ The **Information** screen appears.

Fig. 68 Information screen

In the **Information** screen, you can name the site location, assign a System ID number, select the language the screens are displayed in, display software version number, upgrade the software, import and export the setup, show the System Log, display recorded time data, and clear all data.


1. Highlight the **Site** box and press the button.  
→ A virtual keyboard appears that you can use to enter a Site Name.
2. Once you have entered your title, highlight **Close** and press the button.
3. Highlight the box beside **System ID** and press the button.
4. Change the number by highlighting it and using the Up and Down arrow buttons to increase and decrease the number from 0 to 99.

#### NOTE







The System ID number is used to identify the unit when it is connected with other DVRs through the RS485 port. You cannot use the same ID number for two or more DVRs that are in the same RS485 network. It is possible to have multiple DVRs with System ID 0 that are in the same area as long as they are not part of an RS485 network. If this is the case, all will be controlled at the same time when using the infrared remote control.

5. Highlight the box beside **Language** and press the button.  
→ A drop-down menu displays the available languages.

6. Highlight the desired language and press the  button.
  - The box beside **Version** displays the software version of the DVR.

### Upgrading the software

To upgrade the software, connect a USB device containing the upgrade package file to the DVR.

1. Highlight **Upgrade...** and press the  button.
  - The **Upgrade** screen appears.  
The screen displays the upgrade package file names that are available. The “.rui” indicates that the file is for software upgrades.
2. Select the desired file and press the  button.
  - Highlighting the **Install** button and pressing the  button will install the selected software package. Highlighting the **Cancel** button and pressing the  button will close the window without upgrading the software.
  - If the upgrade package file is not installed on the DVR properly, you will get an error message.
  - The system restarts automatically after completing the upgrade, and it takes approximately one minute to restart.

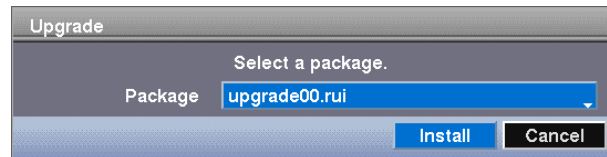


Fig. 69 Upgrade screen





#### NOTE

The USB device must be FAT16 or FAT32 format.

You can import saved DVR settings or export the current DVR settings.

### Importing settings

To import saved DVR settings, connect the USB device containing the setup file (.dat) to the DVR.

1. Highlight **Setup – Import...** and press the  button.
2. Select the desired setup file and press the **Import** button to import the selected settings and change the DVR settings accordingly.
3. Highlight **Include Network Setup** and press the  button to toggle between On and Off.
  - When set to Off, the network settings will not be changed.

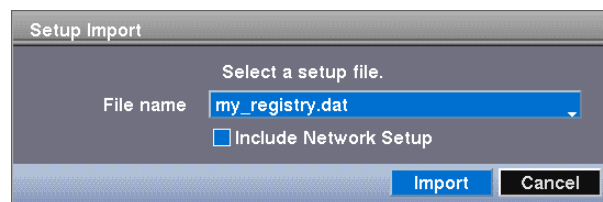




Fig. 70 Setup Import screen

## Exporting settings

To export the current DVR settings, connect the USB device to the DVR.

1. Highlight **Setup – Export...** and press the  button.
2. Highlight the box beside **File name** and press the  button.
  - A virtual keyboard allows you to enter the file name.
  - Selecting **Export** will save the current settings in .dat file format on the USB device.

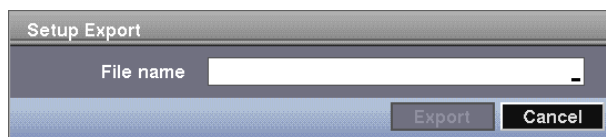


Fig. 71 Setup Export screen



### NOTE


Even after changing the DVR settings by importing saved settings, the time-related settings (Date/Time, Time Zone and Daylight Saving Time) will NOT be changed.



### NOTE

The USB device must be FAT16 or FAT32 format.



## System Log

Highlight **Show System Log...** and press the  button to display the **System Log** screen.






Time	Type
13-08-2008 16:10:20	Setup Begin
13-08-2008 16:10:16	Search End
13-08-2008 16:07:47	Search Begin
13-08-2008 16:07:38	Search End
13-08-2008 16:07:38	Search Begin
13-08-2008 16:07:36	Setup End
13-08-2008 16:05:45	Setup Begin
13-08-2008 16:05:37	Search End
13-08-2008 15:58:45	Search Begin
13-08-2008 15:58:12	Search End

Fig. 72 System Log screen

The **System Log** screen lists system activities (up to 5,000 from the latest) that have occurred along with the time and date. The  icon will display in the last column for system activities of the remote site. You can scroll through the log pages by using the Up and Down arrows, or you can go directly to a log page by entering the log page number in the box at the bottom left of the screen. Highlight **Close** and press the  button to exit the screen.

The box beside **Recorded Data – From / To** displays the time information of recorded data.

Highlighting **Clear All Data...** and pressing the  button will clear all video data. You will be asked to verify that you wish to clear all data before the DVR erases the video data. **Clear All Data...** will not clear the System Log.

After you are finished with the **Information Screen**, you can highlight **Save** and press the  button to save the changes and exit the screen. If you do not wish to save the changes, highlight **Cancel** and press the  button to exit the screen.

## 8.11.2 Date/Time setup

Highlight **Date/Time** in the **System** menu and press the  button.

→ The **Date/Time** setup screen appears.

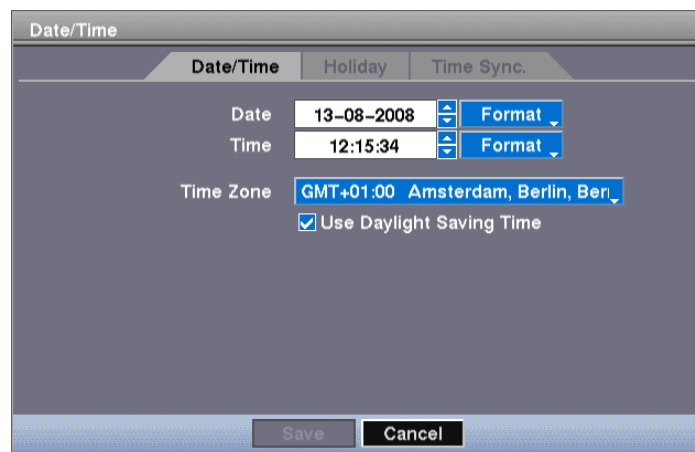











Fig. 73 Date/Time setup screen





### Date/Time

1. Highlight the first box beside **Date** and press the  button.
  - The individual sections of the date will highlight.
  - Use the Up and Down arrow buttons to change the number. Use the Left and Right arrow buttons to move between month, date and year.
2. Once you have the correct date, press the  button.
3. Highlight the **Format** box beside **Date** and press the  button.
  - Select from the three available date formats and press the  button to save your selected format.
4. Highlight the first box beside **Time** and press the  button.
  - The individual sections of the time will highlight.
  - Use the Up and Down arrow buttons to change the number. Use the Left and Right arrow buttons to move between hour, minutes and seconds.
5. Once you have the correct time, press the  button.
6. Highlight the **Format** box beside **Time** and press the  button.
  - Select from the three available time formats and press the  button to save your selected format.



#### NOTE

The clock will not start running until you have highlighted **Save** and pressed the  button.

7. Highlight the box beside **Time Zone** and press the  button.
  - Select your time zone from the list and press the  button.
8. Highlight **Use Daylight Saving Time** and press the  button.
  - Pressing the  button toggles between On and Off.
9. Highlight the **Holiday** tab, and the **Holiday** setup screen appears

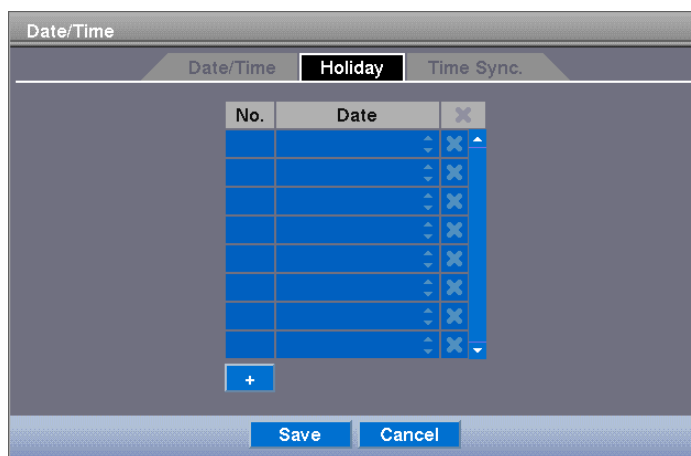


Fig. 74 Holiday setup screen

### Holiday

You can set up holidays by highlighting "+" and pressing the button.

→ The current date appears.

1. Highlight the month and day and change them by using the Up and Down arrow buttons.
2. Press the button to add the date.
  - Dates can be deleted by highlighting the **X** beside the date and pressing the button.



#### NOTE

Holidays that do not fall on the same date each year should be updated once the current year's holiday has passed.

Highlighting the **Time Sync.** tab causes the **Time Sync.** screen to display. You can set up time synchronization between the DVR and standard time servers that are available in most time zones and countries, or between the DVR and another DVR.

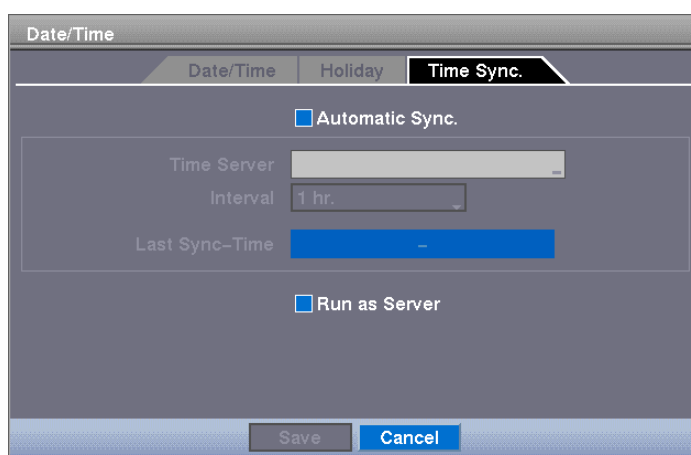



Fig. 75 Time Sync. screen

### Time Sync.





1. Highlight the box beside **Automatic Sync.** and press the button.
  - This toggles between On and Off.

2. Highlight the box beside **Time Server** and press the  button.
  - A virtual keyboard appears that you can use to enter the IP address or domain name of the time server.



#### NOTE

You can use the domain name instead of IP address if you already set up the DNS Server when setting up the LAN.

3. Change the numbers by highlighting them and using the Up and Down arrow buttons to increase or decrease the number value.
4. Highlight the box beside **Interval** and press the  button.
5. Set the time interval for synchronization from 30 minutes to 1 day at various time intervals.
  - **Last Sync-Time** displays the last time the DVR was synchronized with the time server.
6. Highlight **Run as Server** and press the  button.
  - Pressing the  button toggles between On and Off. When it is On, the DVR you are setting up will run as a time server.
  - You can save your changes by highlighting **Save** and pressing the  button.
  - Selecting **Cancel** exits the screen without saving the changes.

### 8.11.3 User setup screen

Highlight **User** in the **System** menu and press the  button.

- The **User** setup screen displays the authorized groups and users.
- You can add and delete groups and users. When adding a group, you can assign authority levels to the group.

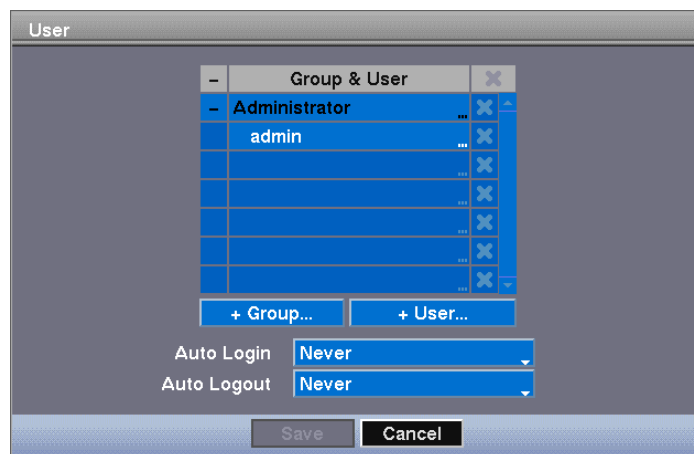




Fig. 76 User setup screen


The +/- column is used to collapse and expand user groups. If there is a "+" or "-" in this column, it indicates the item is a Group Name. If there is a "-" in front of the Group Name, it indicates that the group has been "expanded" and all of the User Names within that group are displayed below the Group Name. If there is a "+" in front of the Group Name, it indicates that the group has been "collapsed" and all of the User Names within that group are hidden. To collapse or expand a group, highlight the +/- column in front of the desired group and press the  button.


Highlighting a Group Name and pressing the  button allows you to change the authority levels assigned to the group.




**NOTE**

Write down the new password and save it in a secure place. If the password is forgotten, the unit must be reset using the **Factory Reset** button and all data settings will be lost.

Highlighting a User Name and pressing the  button allows you to add or change the password assigned to that user. You can also change the group to which the user is assigned.

The **X** column can be used to delete a User Name or an entire Group. If the **X** is greyed out, that Group or User cannot be deleted. Highlight the **X** and press the  button. You will be asked to confirm that you want to delete the User or Group. To delete the User currently logged into the DVR on a local system or a PC running RAS, log the user out of the system first and then delete the user.

To add a Group, highlight the **+ Group...** box and press the  button. A virtual keyboard appears allowing you to enter the Group name. You can use up to 15 characters including spaces in the group name. Enter the name and assign authority levels to the group.

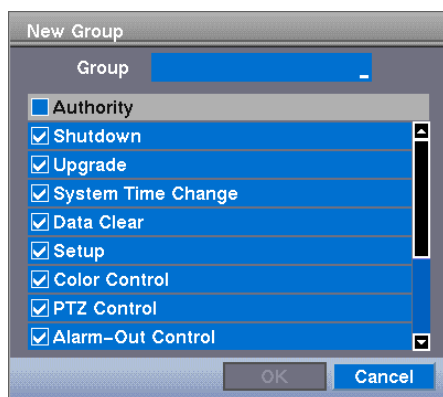





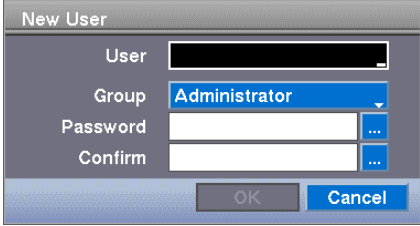
Fig. 77 New Group setup screen

Highlighting the **Authority** box and pressing the  button will toggle between all authority levels being turned On and Off. Highlighting the individual authority level boxes and pressing the  button will toggle between that authority level being turned On and Off. The authority levels that can be turned On and Off are:

<b>Shutdown</b>	The user can shut the system down on a local system.
<b>Upgrade</b>	The user can upgrade the software on a local system or a PC running RAS.
<b>System Time Change</b>	The user can change the system date and time on a local system or a PC running RAS.
<b>Data Clear</b>	The user can clear all video data or format disks on a local system or a PC running RAS.
<b>Setup</b>	The user without Setup authority cannot establish any system settings excluding system shutdown and logout on a local system or a PC running RAS.
<b>Color Control</b>	The user can control brightness, contrast, hue and saturation for cameras on a local system or a PC running RAS.
<b>PTZ Control</b>	The user can control the PTZ camera on a local system or a PC running RAS.
<b>Alarm-Out Control</b>	The user can reset the DVR's outputs including the internal buzzer during an alarm by pressing the Alarm button on a local system or alarm-out control button on a PC running RAS.
<b>Covert Camera View</b>	The user can view video from cameras set as Covert while in the Live Monitoring or Search mode on a local system or a PC running RAS.
<b>System Check</b>	The user can view the remote system status or check the remote system status as a batch process on a PC running RAS.

<b>Record Setup</b>	The user can establish all Record settings on a local system or a PC running RAS.
<b>Search</b>	The user can access the Search mode on a local system or a PC running RAS.
<b>Clip-Copy</b>	The user can copy video clips on a local system or a PC running RAS, and save video data in an AVI, bitmap or JPEG file format.

To add a User, highlight the **+ User...** box and press the  button. A virtual keyboard appears allowing you to enter the User Name. Enter the name and assign the User to a Group and password. You can use camera buttons 1 to 9 on the front panel to assign the password. The password can be up to 8 digits. You will be asked to confirm the password.




The image shows a 'New User' dialog box. It has four input fields: 'User' (a text box), 'Group' (a dropdown menu currently showing 'Administrator'), 'Password' (a text box with a small icon to its right), and 'Confirm' (a text box with a small icon to its right). At the bottom are 'OK' and 'Cancel' buttons.

Fig. 78 New User setup screen




#### NOTE

In addition to using the front panel buttons, you can use the virtual keyboard to assign the password. To display the virtual keyboard click the  button using the mouse (not supplied).

Highlighting the box beside **Auto Login** allows you to select a User to be automatically logged in when the DVR is powered up. It can also be set to never automatically login a user.

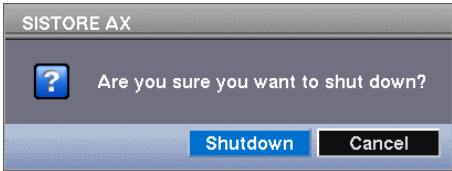
Highlighting the box beside **Auto Logout** allows you to select from a list of times that the user will be automatically logged out. The options are: Never, 1 min., 3 min., 5 min., 10 min., 15 min., 20 min., 25 min., 30 min. and 1 hr.

- You can save your changes by highlighting **Save** and pressing the  button.
- Selecting **Cancel** exits the screen without saving the changes.

### 8.11.4 Shutdown... screen


Highlight **Shutdown** in the **System** menu and press the  button.

- The **Shutdown** screen appears asking you to confirm whether or not you want to shut the system down.



The image shows a 'SISTORE AX' dialog box. It has a question mark icon and the text 'Are you sure you want to shut down?'. At the bottom are 'Shutdown' and 'Cancel' buttons.

Fig. 79 Shutdown screen

After selecting **Shutdown** and pressing the  button, a screen will appear telling you when it is safe to disconnect power.

### 8.11.5 Log out...screen

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Highlight **Log out...** in the **System** menu and press the  button.

→ The **Log out** screen appears asking you to confirm whether or not you want to log out the current user.

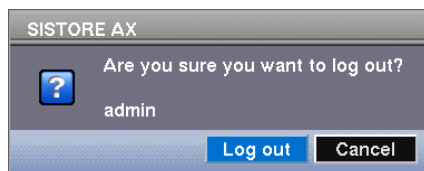



Fig. 80 Log out screen

After selecting **Log out** and pressing the  button, the user will be logged out.

## 9 Operation

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**NOTE**

This chapter assumes your DVR has been installed and configured. If it has not, please refer to Sections 7: Installation and 8: Configuration.

---

The DVR's controls are similar to a VCR. As with a VCR, the main functions are recording and playing back video. However, you have much greater control over recording and playing back video. You can establish recording schedules based on time of day and day of the week. The DVR allows you to search through the recorded video using much more sophisticated tools than those available with VCRs. Additional DVR features that are not available with VCRs are remote control and viewing, and recording video at the same time you are watching previously recorded video.

The front panel controls are described in Section 8: Configuration.

### 9.1 Turning on the power

---

Once you have installed the DVR following the instructions in Section 7: Installation, it is ready to record.



### 9.2 Live monitoring

---

As soon as the DVR completes its initialization process, it will begin showing live video on the attached monitor. The default mode is to display all cameras at once. Pressing any camera button will cause that camera to display full screen.



#### 9.2.1 Freeze Mode

---

Pressing the  button will freeze the current image on the screen until you press the button again or press any button except for **Menu** and **Panic** buttons. While in the Freeze mode, the icon  displays in bottom-left corner if **Freeze** is selected in the **Display** setup screen (**OSD** tab).

#### 9.2.2 Zoom mode

---

You can enlarge an area of the video by pressing the **Zoom** button. The rectangle displayed on the screen shows the area that is enlarged. You can move the rectangle around using the arrow buttons. Pressing the  button enlarges the area in rectangle. Exit the Zoom mode by pressing the **Zoom** button. While in the Zoom mode, the icon  displays in bottom-left corner if **Zoom** is selected in the **Display** setup screen (**OSD** tab).

### 9.2.3 Image adjustment

---

**NOTE**

It is important that cameras and monitors are correctly installed and adjusted prior to making any image adjustments using the DVR's controls.

---

If a user who has Colour Control authority logs into the system, the user can adjust the image. Pressing and holding a camera button for a few seconds displays an image adjustment dialog. You can control brightness, contrast, hue and saturation for each camera.

**NOTE**

Any image adjustments you make will be applied to both the live video on the monitors and the recorded video.

---

### 9.2.4 Sequence Mode

---

Pressing and holding the **Menu** button for three seconds or longer causes the cameras to display sequentially. Pressing one of the camera buttons exits the Sequence mode.

### 9.2.5 Event monitoring

---

When an event occurs, the DVR will display the camera associated with the event if **Event Monitoring On** is selected in the **Display** setup screen (**OSD** tab).

Event monitoring lasts for the dwell time set for event recording. After the dwell time has elapsed, the monitor returns to the previous screen unless another event has occurred. If you want to return to the live monitoring mode before the dwell time has elapsed, press one of the camera buttons.

### 9.2.6 Covert camera

---

If a camera is set up as Covert 1 in the **Camera** setup screen (**Settings** tab), that camera will not be displayed unless a user with Covert Camera View authority logs into the system. However the camera title and status icons will be displayed on the monitor.

If a camera is set up as Covert 2 in the **Camera** setup screen (**Settings** tab), that camera appears to be Off unless a user with Covert Camera View authority logs into the system. The camera title will be greyed out and status icons will not be displayed on the monitor.

**NOTE**

When a camera is set up as Covert 1, the DVR displays the camera title and status icons on the covert video. When set up as Covert 2, the DVR displays only the camera title on the covert video.

---

If a user who has Covert Camera View authority logs into the system, the user can view video from cameras set to Covert 1 or Covert 2 including the camera titles and status icons.

## 9.2.7 PTZ mode

If a user who has PTZ Control authority logs into the system, the user can control PTZ cameras. The DVR will control cameras with Pan, Tilt and Zoom capabilities. Press the **PTZ** button to display the PTZ camera menu and to enter the PTZ mode. Press the button again to exit the PTZ mode. You can control the camera using front panel control buttons, by setting up presets or by selecting the expanded PTZ features.

Select the PTZ camera you wish to control by selecting it from the menu. The icon **PTZ** displays on the PTZ camera screen.

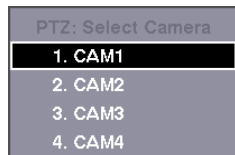


Fig. 81 PTZ Select Camera menu

Left and Right arrow buttons: Pans left and right.

Up and Down arrow buttons: Tilts the camera up and down.

Camera button 1: Zooms in

Camera button 2: Zooms out.

Camera button 3: Focuses the image near.

Camera button 4: Focuses the image far.

You can save camera position settings as “presets” so that you can go directly to desired views.

Once you have the camera at the desired settings, press the **Menu** button. Select **Set Preset** from the PTZ menu, and the **PTZ Preset** dialog box will appear.

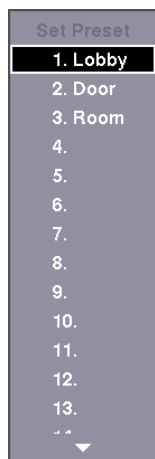


Fig. 82 PTZ Preset screen

Select the number you want to assign to the preset and press the **Menu** button. Use the virtual keyboard to enter the preset name.

Select **Move to Preset** from the PTZ menu or press the **Move to Preset** button on the front panel to load the PTZ preset and the **Preset View** dialog box will appear.

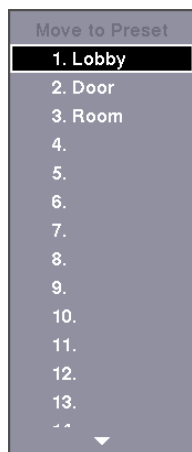


Fig. 83 Preset view screen

Select the desired preset and press the  button to load the preset.

Pressing the **Menu** button displays the following **PTZ** menu. Set the feature you wish to control by selecting it from the menu. Refer to the camera instructions for the proper settings. Depending on the camera specifications, some features may not be supported.

Refer to the Appendix, Section 12.6.2: Local control of CCDA and CCDS dome cameras for information on controlling CCDA and CCDS dome cameras.

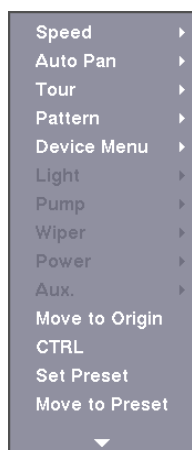


Fig. 84 PTZ menu

You can use a mouse for convenient PTZ control. Position the mouse pointer at the bottom of the screen, and the following PTZ toolbar will display.



Fig. 85 PTZ controls

Clicking **X** on the left side exits the toolbar. If you want to display the toolbar again, position the mouse pointer at the bottom of the screen. Change the toolbar location by clicking the empty space on the left side of the toolbar and drag it to where you want it located on the screen. Use the arrow buttons on the toolbar to pan or tilt the camera in the direction you want. The other controls on the toolbar perform as described below:



Zoom In / Out  
Focus Near / Far  
Iris Open / Close  
Set / Load Preset

## 9.3 Using a mouse

You can use a mouse instead of the front panel buttons to perform many of the DVR functions. The following operations are supported when using a mouse during live monitoring.

When in quad (2x2) display mode, clicking the mouse button on a camera image switches that camera to full screen. Clicking the mouse button again returns to the quad (2x2) screen format.

Clicking the right mouse button during live monitoring displays the following menu:

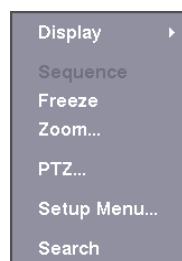


Fig. 86 Mouse menu

Selecting **Sequence**, **Freeze** and **PTZ...** is the same as pressing the **Menu**, **◀** and **PTZ** buttons as described above in Section 9.2: Live monitoring.



### NOTE

**Sequence** will be selected from the menu only in full screen mode.

Selecting **Zoom...** zooms in on the live image. While in the zoom mode, there are two ways to move around the enlarged portion of the video. First, there is a rectangle showing what area of the image will be enlarged. Click inside the rectangle to move to another area of the image you want enlarged. Second, click and hold the mouse button on the enlarged video and drag the video.

Selecting **Display** shows the following menu:

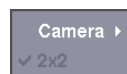


Fig. 87 Mouse display menu

Clicking **Camera** and selecting the camera number is the same as pressing the individual camera buttons on the front panel which displays the selected camera full screen.

Selecting **2x2** displays the cameras in quad (2x2) screen mode.



## 9.4 Recording video

Once you have installed the DVR following the instructions in Section 7: Installation, it is ready to record. The DVR will start recording based on the settings you made in the **Record** setup screen. See Section 8: Configuration.

"Recycle On" or "Recycle Off". The factory default is "Recycle On". It does this by recording over the oldest video once the hard disk is full. Setting the DVR to "Recycle Off" causes it to stop recording once the hard disk is full.

"Standard" (CIF), "High" (Half D1) or "Very High" (D1). The factory default resolution is "Standard". When set to "Standard", the DVR has a maximum recording speed of 100 ips (120 ips for NTSC) resolution. When set to "High", the DVR has a maximum recording speed of 50 ips (60 ips for NTSC). When set to "Very High", the DVR has a maximum recording speed of 25 ips (30 ips for NTSC).

Pressing the **Panic** button starts panic recording of all cameras, and pressing the button again stops panic recording. If you set the Panic Recording Duration in the **Record** Screen, panic recording will stop automatically according to the preset duration as long as the **Panic** button is not pressed.



### NOTE

When the DVR is not in the Recycle mode and all available storage space has been used, panic recording will not operate.

Although you will be able to record without changing the unit from its original factory settings, you will want to take advantages of the DVR's many tools. See Section 8: Configuration for detailed descriptions of the recording mode options.

## 9.5 Playing recorded video

If a user who has Search authority logs into the system, the user can view recorded image. Once video has been recorded, you can view it by pressing the **Play** button. When playing video for the first time, the DVR will display the most recent image. When playing video subsequent times, the DVR will start playing video from the last recalled image.











### NOTE

Only the administrator and users with **Covert Camera View** authority can view video from covert cameras. The covert cameras in the playback mode are determined by the current camera settings.


#### Camera buttons (1 to 4)

Pressing the individual camera buttons will cause the selected camera to display full screen.




#### Up, Down, Left, Right Arrow buttons

Pressing the  button plays video backward at high speed. Pressing the button again toggles the playback speed from  and . Pressing the  button plays video forward at high speed. Pressing the button again toggles the playback speed from  and . When in the pause mode, pressing the  button moves to the next image and pressing the  button moves to the previous image.

#### Pause button

Pressing the  button pauses playing video.

#### Play button

Pressing the **Play** button enters the playback mode, and pressing the button again exits the playback mode. When entering the playback mode, video is paused. Pressing the  button plays back video at regular speed. The screen displays  when the DVR is in the Pause mode and the screen displays  when the DVR is playing back video.

#### Zoom button

Pressing the **Zoom** button zooms in the current image in double on the screen.

You can use a mouse for convenient playback control. Position the mouse pointer on the search screen, and the following search toolbar will display.



Fig. 88 Mouse playback controls

Clicking **X** on the left side exits the toolbar. If you want to display the toolbar again, position the mouse pointer on the screen. Change the toolbar location by clicking the empty space on the right side of the toolbar and drag it to where you want it located on the screen.

The individual controls on the toolbar perform the following functions as described below:

- ◀ Go to the first image
- ◀◀ Fast backward play
- ◀| Go to the previous image
- ▶ Play
- ▶| Go to the next image
- ▶▶ Fast forward play
- ▶| Go to the last image

## 9.6 Searching video

Pressing the **Menu** button or clicking the right mouse button while in the Search mode displays the **Search Menu**.

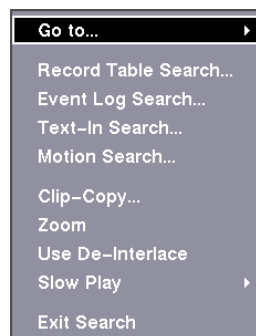


Fig. 89 Search menu

<b>Go to... – First</b>	Displays the first recorded image.
<b>– Last</b>	Displays the last recorded image.
<b>– Date/Time</b>	Searches by date and time (see below for more details).
<b>Record Table Search...</b>	Searches using a recording table (see below for more details)
<b>Event Log Search...</b>	Selects video from the event log (see below for more details)
<b>Text-In Search...</b>	Searches text input strings (see below for more details)
<b>Motion Search...</b>	Searches motion events (see below for more details)
<b>Clip-Copy...</b>	Clips a video segment and saves it (see below for more details)
<b>Zoom...</b>	Zooms the current playback image
<b>Use De-Interlace</b>	Turns the de-interlace filter on

**NOTE**

The video signal has a time difference of 1/50 second (1/60 second for NTSC) between odd and even fields because it is composed of 50 interlaced fields per second (60 fields for NTSC). When recording video with Very High (D1) resolution, video is made up of frame units combining two fields – one odd field and one even field. This can cause horizontal scan lines or flashes in areas with motion because of the time difference between the two fields. Turning on the de-interlace filter provides clearer video by eliminating these horizontal scan lines and flashes.

**Slow Play...**

Plays video at low speed (x1/2, x1/3, x1/4, x1/6 and x1/8)

**Exit Search**Exits the **Search** Menu

## 9.6.1 Go to the Date/Time

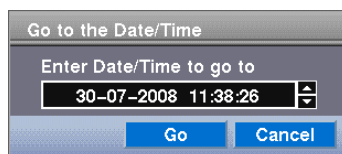


Fig. 90 Go to the Date/Time screen

1. Move the cursor over the date and time and press the button.
  - You can use the Left and Right arrow buttons to highlight the year, month, day, hours, minutes and seconds.
  - Use the Up and Down arrow buttons to change to the date and time you want to search for video.
2. Once you have set the date and time you want, press the button.
3. Then highlight **Go** and press the button.
  - The selected date and time will display. (If no video was recorded during the selected time, a message appears alerting you that no image was recorded at that time.)
  - The arrow buttons can now be used to review the surrounding video.

## 9.6.2 Record Table Search



Fig. 91 Record table search screen

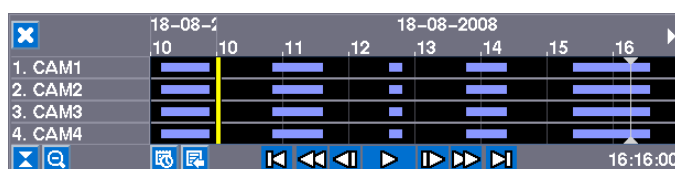


Fig. 92 Record table search screen (Expanded View)

Recording information about video images currently displayed on the screen displays on the recording status bar. A white vertical line indicates the current search position. To search specific video, move the vertical line by using the Left or Right arrow buttons on the front panel or by clicking the mouse on the desired segment.

If the DVR's time and date have been reset to a time that is earlier than some recorded video, it is possible for the DVR to have more than one video stream in the same time range. In this case, the overlapping time range in the record table will be separated by a yellow vertical line.



**NOTE**

The recorded data in the time range located after the yellow vertical line is the latest.

There are two view modes. Selecting (Standard view) or (Expanded view) located at the bottom switches to the other view mode. Standard view displays combined recording information of all camera channels currently displayed on the screen. Expanded view displays the recording information of each camera channel currently displayed on the screen.

Selecting or located at the bottom zooms the record table. Selecting displays eight hours (1-minute based), and selecting displays 24 hours (3-minute based) at once. To move to earlier or later times that are not shown in the current record table screen, select the arrows located at the end of the times by using the arrow buttons on the front panel.



**NOTE**

If the DVR has images recorded in more than one recording mode in the same time range, the recording status bar displays recording information in the following priority order: Panic → Pre-Event → Event → Time. The colour of the bar indicates different recording modes: Red for Panic, White for Pre-Event, Yellow for Event, and Blue for Time.

Selecting located at the bottom displays the Search menu.

Selecting located at the bottom displays the following Calendar Search screen.



Fig. 93 Calendar Search screen

Days with recorded video display on the calendar with white numbers. You can highlight the days with recorded video by using the arrow buttons. Once you have highlighted a day, press the button to select it. The first recorded image of the selected date will pause on the screen.

Once you have selected the date you want to search, review the surrounding video by using the playback controls located at the bottom. Refer to Section 9.5: Playing recorded video for information regarding playback controls.

Selecting located in top-left corner exits the recording table screen.

### 9.6.3 Event Log Search

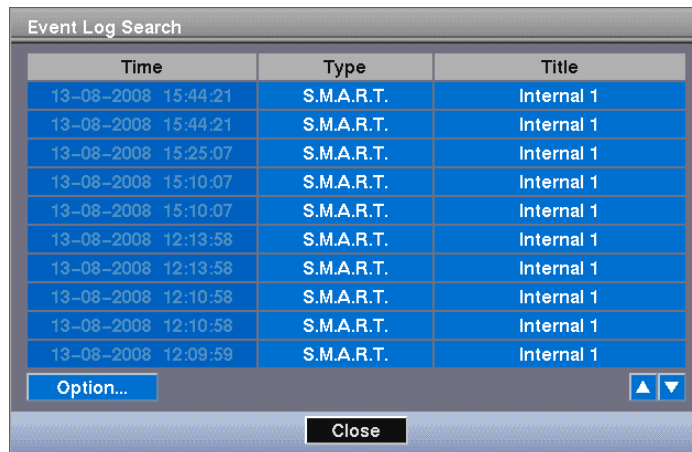


Fig. 94 Event Log Search screen

The DVR maintains a log of each time the Alarm Input port is activated. The **Event Log Search** screen displays this list. Use the arrow buttons to highlight the event for which you would like to see video.

Pressing the button will extract the event video and display the first image of the event. Pressing the button will start playing the “event” video segment. Pressing the **Play** button returns to live monitoring.



#### NOTE

It is possible that no recorded image displays on the current screen. Change the screen mode to 2x2, and you will be able to easily see the camera have recorded video during target time.



You can also narrow your event search by selecting the **Option...** button and setting up the new search condition.









Fig. 95 Event Log Search Option screen

You can search video from the first to last recorded images, or you can set the start and stop times and dates.

1. Highlight the box beside **From** and press the button to toggle between On and Off.
  - ➔ When set to Off, you can enter a specific Date and Time.
  - ➔ When set to On, the search will be from the first recorded image.

2. Highlight the box beside **To** and press the  button to toggle between On and Off.
  - When set to Off, you can enter a specific Date and Time.
  - When set to On, the search will be from the last recorded image.
3. Highlight the box beside **Check Time Overlap** and press the  button.
  - It toggles between On and Off.

You will only be able to turn the Check Time Overlap on or off if a user-defined date and time is set to From and To. If the DVR's date and time have been reset, it is possible for the DVR to have more than one overlapping start and stop time. When set to On, you will be asked to select one of the overlapping start and stop time. When set to Off, the DVR will display search results from all start times to all stop times.
4. Highlight the box beside **Alarm-In** and press the  button.
  - You can select the alarm inputs that you want to include in your search.
5. Highlight the box beside **Motion** and press the  button.
  - You can select the cameras for which you want any reports of motion detection.
6. Highlight the box beside **Video Loss** and press the  button.
  - You can select the cameras for which you want any reports of lost video.
7. Highlight the box beside **Text-In** and press the  button.
  - You can select the text-in devices which you want any report of text input.
8. Highlight the box beside **Record Channels** and press the  button.
  - You can select the cameras that you want to search for any reports of event recorded data. The DVR will display the events (not the camera channels) that occurred and that also are recorded on the camera channel that you selected. If you do not select a camera channel in this field, the DVR will search events that are not associated with cameras.
  - You can also toggle On and Off self-diagnostic events as part of your search. The choices are:
    - Panic Record
    - Check Recording
    - Check Alarm-In
    - Disk Almost Full
    - Disk Bad
    - Disk Temperature
    - Disk S.M.A.R.T.
    - Fan Error
  - Once you set your desired search conditions, highlight **Search** and press the  button to display the search results in the **Event Log Search** screen.
  - Selecting **Cancel** exits the screen without saving the changes.

## 9.6.4 Text-In Search





Time	Transaction
30-07-2008 17:53:54	Time Out
30-07-2008 17:43:56	Test.Inc
30-07-2008 17:43:54	No. 0001
30-07-2008 17:43:54	Thank you~~
30-07-2008 17:43:54	total : \$ 8.30
30-07-2008 17:43:54	Garlic bread   \$ 1.15   1(s)   \$ 1.15
30-07-2008 17:43:54	Pan cake   \$ 3.15   1(s)   \$ 3.15
30-07-2008 17:43:54	7 Up   \$ 1.80   1(s)   \$ 1.80
30-07-2008 17:43:54	Coke   \$ 2.20   1(s)   \$ 2.20
30-07-2008 17:43:54	Item Unit price Qty amount

Option... Close

Fig. 96 Text-In Search screen

The DVR maintains a log of each time there is Text Input. The **Text-In Search** screen displays this list. Use the arrow buttons to highlight the event for which you would like to see video.

Pressing the  button will extract the video associated with the Text Input and display the first image of the event. Pressing the  button will start playing the "event" video segment. Pressing the **Play** button returns to live monitoring.



### NOTE

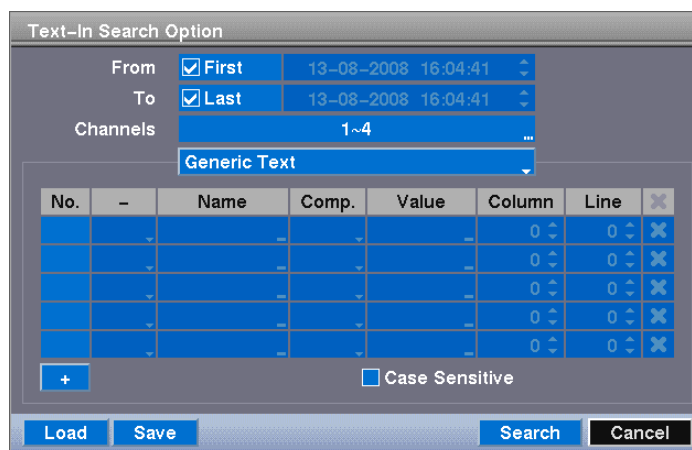
It is possible that no recorded image displays on the current screen. Change the screen mode to 2x2, and you will be able to easily see the camera have recorded video during target time.



### NOTE

Text Input information will be overlaid on the image while the recorded video is played at regular speed.

You can also narrow your event search by selecting the **Option...** button and setting up the new search condition.



Text-In Search Option

From ☒ First 13-08-2008 16:04:41

To ☒ Last 13-08-2008 16:04:41

Channels 1~4

Generic Text










No.	-	Name	Comp.	Value	Column	Line	X
					0	0	X
					0	0	X
					0	0	X
					0	0	X
					0	0	X

+ ☐ Case Sensitive

Load Save Search Cancel

Fig. 97 Text-In Search Option screen

You can search video from the first to last recorded images, or you can set the start and stop times and dates.

1. Highlight the box beside **From** and press the  button to toggle between On and Off.
  - When set to Off, you can enter a specific Date and Time.
  - When set to On, the search will be from the first recorded image.
2. Highlight the box beside **To** and press the  button to toggle between On and Off.
  - When set to Off, you can enter a specific Date and Time.
  - When set to On, the search will be from the last recorded image.
3. Highlight the **Channels** and press the  button.
4. Select the text-in devices that you want to search for text input.
5. Highlight the **Text Input Device** box and press the  button.
6. Select your Text Input Device from the list.
7. Highlighting the + and pressing the  button allows you to add a new set of search parameter.
  - Set up the desired search parameter. Refer to Section 12.2: Text-In Search Examples for further information on setting up search parameters. The **X** column can be used to delete a set of search parameter or entire sets of search parameters.
8. Highlight **Case Sensitive** and press the  button.
  - This will toggle between On and Off.
  - When this feature is On, the search will find only those text strings in which the case matches.
9. Highlight **Load** and press the  button to load saved search option settings. Select the desired search option settings.
10. Highlight **Save** and press the  button to save the current search option settings. A virtual keyboard appears that you can use to enter the search option name.
  - Once you set your desired search conditions, highlight **Search** and press the  button to display the search results in the **Text-In Search** screen.
  - Selecting **Cancel** exits the screen without saving the changes.

## 9.6.5 Motion Search

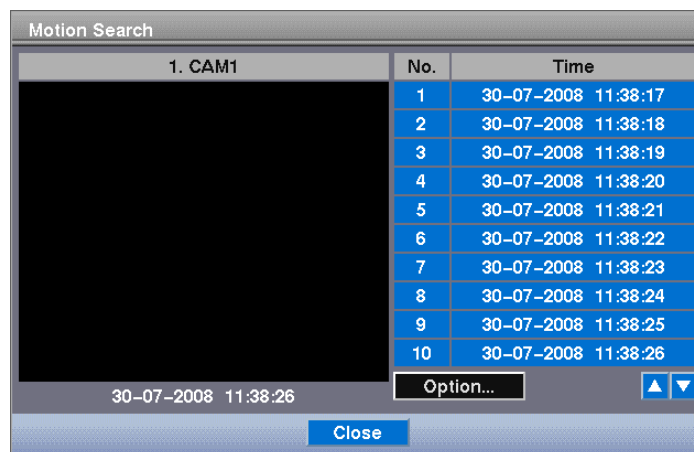





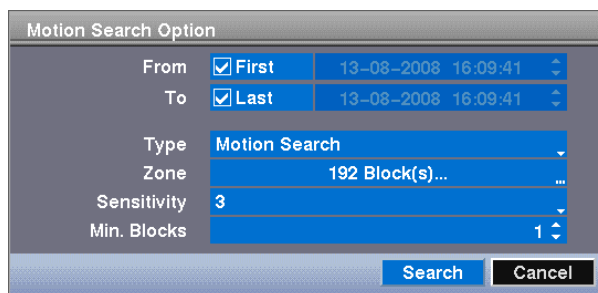
Fig. 98 Motion Search screen



The **Motion Search...** can be selected from the **Search** menu while the DVR displays the camera full screen. The **Motion Search** screen displays a list of motion events. Use the arrow buttons to highlight the event for which you would like to see and press the  button to display the video associated with selected event on the small search screen.

Highlighting **Close** and pressing the  button extract the video associated with the Motion event and display the first image of the event. Pressing the  button will start playing the “event” video segment. Pressing the **Play** button returns to live monitoring.





You can also narrow your event search by selecting the **Option...** button and setting up the new search condition.



The screenshot shows the 'Motion Search Option' dialog box. It contains several settings: 'From' is set to 'First' with a date/time of '13-08-2008 16:09:41'; 'To' is set to 'Last' with the same date/time; 'Type' is 'Motion Search'; 'Zone' is '192 Block(s)...'; 'Sensitivity' is '3'; and 'Min. Blocks' is '1'. At the bottom right are 'Search' and 'Cancel' buttons.

Fig. 99 Motion Search Option screen


You can search video from the first to last recorded images, or you can set the start and stop times and dates.



1. Highlight the box beside **From** and press the  button to toggle between On and Off.
  - When set to Off, you can enter a specific Date and Time.
  - When set to On, the search will be from the first recorded image.
2. Highlight the box beside **To** and press the  button to toggle between On and Off.
  - When set to Off, you can enter a specific Date and Time.
  - When set to On, the search will be from the last recorded image.
3. Highlight the box beside **Type** and press the  button.
  - You can select between Motion Search and Museum Search. Motion Search detects motion in the defined area. Museum Search detects if a defined object has moved.
4. Highlight the box beside **Zone** and press the  button.
  - An image from the video appears with a grid overlaid.
  - You can turn sensor blocks On and Off to define the area of the picture in which you want to search for motion.



#### NOTE

When setting the Museum Search Zone, the zone should be placed inside of the border line of the target object. If the selected block is placed on the boarder line, the sensitivity of the Museum Search may decrease.


- The zone should be placed or focused on the centre or, at least, within the outline of targeted object.
5. Highlight the box beside **Sensitivity** and press the  button.
    - You will be able to select from 1 (low sensitivity) to 5 (high sensitivity).

6. Highlight the box beside **Min. Blocks** and press the  button.
  - You will be able to set the number of sensor blocks that must be activated.
  - Setting the Min. Blocks will only be available if Motion Search is selected.
- Once you set your desired search conditions, highlight **Search** and press the  button to display the search results in the **Motion Search** screen.
- Selecting **Cancel** exits the screen without saving the changes.

When you search for motion events of another camera, you will be asked whether or not you want to delete the previous search results from the list.

### 9.6.6 Clip-Copy screen

The **Clip-Copy** screen can be used to copy video clips to an external USB hard disk, CD-RW or flash drive. The copied video clips can be viewed on computers running Microsoft Windows 98, ME, 2000, XP or Vista. Refer to the Appendix, Section 12.1: Preparing the USB hard disk drive in Windows 2000 for information on preparing the external drive for clip copy. The clip copy can be simply done by pressing the **Clip Copy** button.

Pressing and holding the **Clip Copy** button for three seconds or longer during the playback will set the starting point of the video to be clip copied, and the  icon displays at the bottom-left corner of the screen. Pressing and holding the **Clip Copy** button for three seconds or longer again will set the ending point of the video to be clip copied by displaying the **Clip-Copy** screen.

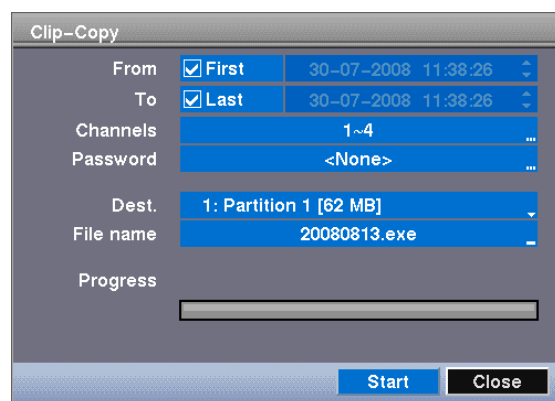







Fig. 100 Clip-Copy screen

You can search video from the first to last recorded images, or you can set the start and stop times and dates.

1. Highlight the box beside **From** and press the  button to toggle between On and Off.
  - When set to Off, you can enter a specific Date and Time.
  - When set to On, the search will be from the first recorded image.
2. Highlight the box beside **To** and press the  button to toggle between On and Off.
  - When set to Off, you can enter a specific Date and Time.
  - When set to On, the search will be from the last recorded image.
3. Highlight the box beside **Channels** and press the  button.
  - You can select the cameras that you would like to include in your video clip.

4. Highlight the box beside **Password** and press the  button.
  - A virtual keyboard appears allowing you to enter the password for reviewing the video clips.
5. Highlight the box beside **Dest.** and press the  button.
  - You can select the storage device on which you would like to record the video clip. You can choose from USB Storage and USB CD-RW.


**NOTE**

The USB device for clip copy must be FAT16 or FAT32 format.

**NOTE**



While copying video clips on the CD-RW, the recording speed might decrease.

The DVR automatically assigns a file name to the video clip. However, you can give the video clip file a different name.

6. Highlight the box beside **File Name** and press the  button.
  - A virtual keyboard appears.
7. Enter a file name for the video you are backing up and select **Close**.
  - The DVR will automatically add the camera number (for example “01”) and “.exe” to the file name.


**NOTE**

When naming a file, you cannot use the following characters: \, /, :, \*, ?, “, <, >, |.

8. Once you have given the video clip a file name, highlight the **Start** button and press the  button.
  - The confirmation screen displaying data size will appear. When the storage device does not have enough space, the DVR will ask if you want to copy as much of the video clip as possible in the available space.
9. Highlight the **Continue** button and press the  button to continue clip copy.
  - Once the clip copy starts, you can cancel it by selecting **Cancel** or hide the screen by selecting **Close**.
  - When selecting **Close**, Clip Copy continues and a confirmation screen will display when complete.

**NOTE**

Do not copy video clips larger than 2GB.

You can use other functions on the DVR while video is being backed up. To do this, highlight the **Close** button and press the  button. You can return to the **Clip-Copy** screen at any time to check the progress.

You do not need to install any special software on your personal computer to review the video clips. Refer to the RAS manual for instructions on how to review video clips you have copied.

**NOTE**

During Clip Copy, you cannot shut the system down, clear data on the storage device, or format the storage device.



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**NOTE**

Do **not** disconnect the USB cable or the power from the external drive while copying video clips. If the external drive is shut down or the USB cable is disconnected while copying video clips, THE DVR SYSTEM MAY NOT WORK NORMALLY OR THE EXTERNAL DRIVE COULD BE DAMAGED, and you will get an error message the next time you try to copy video clips. You will need to power down the DVR and restart it to get rid of the error message. Once the file system of the USB hard disk drive has been corrupted, this error message cannot be dismissed. Even after restarting the DVR it may automatically restart while preparing to clip copy. You must recover the file system using the recovery program, or you must reformat the hard disk drive.

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## 10 Troubleshooting

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Problem	Possible solution
<b>No power</b>	<ul style="list-style-type: none"> <li>• Check power cord connections.</li> <li>• Confirm that there is power at the outlet.</li> </ul>
<b>No live video</b>	<ul style="list-style-type: none"> <li>• Check camera video cable and connections.</li> <li>• Check monitor video cable and connections.</li> <li>• Confirm that the camera has power.</li> <li>• Check camera lens settings.</li> </ul>
<b>No Live Video on the VGA Monitor</b>	<p>If the DVR does not detect a VGA monitor automatically, press and hold the <b>Panic</b> button on the front panel or remote control for 5 seconds or longer to switch the video output from Video out to VGA out.</p>
<b>DVR has stopped recording</b>	<p>If hard disk drive is full, you will either need to delete video or set the DVR to the Overwrite Mode.</p>
<b>The icon  displays, however, the DVR is not recording</b>	<p>When the DVR is in the Pre-Event recording mode, the yellow  and  display when there is no event, and the DVR is not recording. The red  and  display when any event occurs and the DVR starts recording.</p>

## 11 Disposal

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All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.

This crossed-out wheeled bin symbol on the product means the product is covered by the European Directive 2002/96/EC.

The correct disposal and separate collection of your old appliance will help prevent potential negative consequences for the environment and human health. It is a precondition for reuse and recycling of used electrical and electronic equipment. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

## 12 Appendix

### 12.1 Preparing the USB hard disk drive in Windows 2000

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**NOTE**

Preparing a USB hard disk drive under Windows XP and Windows Vista is almost identical to Windows 2000.

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1. Connect the USB hard disk drive to your computer using the USB cable.
  2. Turn on your computer.
    - The USB device icon should display on the Taskbar.
    - If the USB hard disk drive is partitioned or has data, it will show up in **My Computer** as a hard disk drive icon.
  3. Check the file system by right clicking on the icon and checking under **Properties > General > File System**.
  4. If the file system is **not** FAT32 format, format the USB hard disk drive using the FAT32 format.
  5. If the USB hard disk drive is not partitioned, go to **Administrative Tools** in **Control Panel** and launch **Computer Management**.
  6. Open **Disk Management** in **Storage** and right click an unallocated region of the USB hard disk drive.
  7. Then, click **Create Partition**.
  8. In the **Create Partition** wizard, click **Next** then **Primary Partition**, and follow the instructions on the screen.
  9. Make sure that the FAT32 is selected for the file system.
- 

**NOTE**

The partition size should be less than 32 GB because of Microsoft limitations.

---

- After formatting is complete, the USB hard disk drive will be added to **My Computer**.
10. Connect the USB hard disk drive to the DVR.

## 12.2 Text-In Search Examples

### 12.2.1 Search Example I

```

          1          2          3          4          5          6
12345678901234567890123456789012345678901234567890
=====
Item      Unit price  Qty      amount
=====
Coke      $    2.20   1(s)    $    2.20
Fanta     $    2.20   1(s)    $    2.20
Hotdog    $    3.50   3(s)    $   10.50
Pepsi     $    1.95   1(s)    $    1.95
=====
                                total : $    16.85
Thank you~~

```

In the above text-in data, you can find that the comparison value is located at 17<sup>th</sup> (Unit price, \$ mark will be ignored automatically), 28<sup>th</sup> (Qty) and 40<sup>th</sup> (amount) characters (including spaces) from the left. In this case, you can enter "17", "28" and "40" in each Column box.

For example, if you want to search for Coke with a Qty (Quantity) of more than 1 and Hotdog with an amount totaling over \$8, the following search condition can be set.

The screenshot shows the 'Text-In Search Option' dialog box. It has fields for 'From' (First) and 'To' (Last), both dated 13-08-2008 16:04:01. The 'Channels' field is set to '1~4'. Below is a 'Generic Text' dropdown. A table lists search conditions:

No.	-	Name	Comp.	Value	Column	Line	X
1		Coke	>	1	28	0	X
2	AND	Hotdog	>	8	40	0	X
					0	0	X
					0	0	X
					0	0	X

At the bottom, there is a '+', a 'Case Sensitive' checkbox, and buttons for 'Load', 'Save', 'Search', and 'Cancel'.



## 12.2.2 Search Example II

1 2 3 4 5 6  
12345678901234567890123456789012345678901234567890

Item	Unit price	Qty	amount
Coke	\$ 2.20	1(s)	\$ 2.20
Fanta	\$ 2.20	1(s)	\$ 2.20
Hotdog	\$ 3.50	3(s)	\$ 10.50
Pepsi	\$ 1.95	1(s)	\$ 1.95
total :			\$ 16.85

Thank you~~

In the above text-in data, you can find that the comparison value is located at 17<sup>th</sup> (Unit price, \$ mark will be ignored automatically), 28<sup>th</sup> (Qty) and 40<sup>th</sup> (amount) characters (including spaces) from the left, but the value of amount category is located on a different line from Item. In this case, you can enter "17", "28" and "40" in each Column box and enter "1" in the Line box for the next line.

For example, if you want to search for Coke with a Qty (Quantity) of more than 1 and Hotdog with an amount totalling over \$8, the following search condition can be set.

Text-In Search Option

From ☒ First 13-08-2008 16:03:15

To ☒ Last 13-08-2008 16:03:15

Channels 1~4

Generic Text

No.	-	Name	Comp.	Value	Column	Line	X
1		Coke	>	1	28	0	X
2	AND	Hotdog	>	8	40	1	X
					0	0	X
					0	0	X
					0	0	X

☐ Case Sensitive

Load Save Search Cancel

## 12.3 Web Client

Web Client allows you to access a remote DVR, monitor live video images and search recorded video using Internet Explorer web browser anytime from virtually anywhere.

Computer system requirements for using Web Client are:

- Operating System: Microsoft® Windows® 2000, Microsoft® Windows® XP or Microsoft® Windows® Vista
- CPU: Intel Pentium III (Celeron) 600 MHz or faster
- RAM: 128 MB or higher
- VGA: 8 MB or higher (1024x768, 24 bpp or higher)
- Internet Explorer: Version 6.0 or later

Start Internet Explorer on your local PC and enter "http://IP address:port number" (The DVR IP address and the Web Client port number (default: 12088) set in the Network setup screen (Web Client tab)) in the address field.



### NOTE

You will need to get the appropriate IP address for the DVR you want to connect to and the Web Client port number from your network administrator.



### NOTE

Web Client only works with Microsoft Internet Explorer and will NOT work with Netscape or other browsers.



Select between the **WEBVIEW** (Web monitoring) and **WEBPLAY** (Web search) modes and enter the appropriate port number of the program. Entering your ID and PASSWORD and clicking the **[LOGIN]** button logs in using the selected mode. Selecting **Save ID** saves the ID you entered.



### NOTE

The port numbers for **WEBVIEW** and **WEBPLAY** should be the same with port numbers for *Remote Watch* and *Remote Search* that were set during Network setup.



### NOTE

When running the updated Web Client for the first time, Internet Explorer might occasionally load the information of the previous version. In this case, delete the temporary Internet files by selecting Tools → Internet Options → General tab, and then run Web Client again.



### NOTE

There might be a problem with the bottom of the Web Client page being cropped caused by the address or status bars in Microsoft Internet Explorer 7.0. In this situation, it is recommended that websites open windows without address or status bars by changing Internet setting. (Go to the Tools → Internet Options → Security tab → Click the Custom level... button → Select *Enable* for the *Allow websites to open windows without address or status bars* option.)

**NOTE**

When running Web Client in the Microsoft Windows Vista operating system, it is recommended that you start Internet Explorer with elevated administrator permissions. Click the right mouse button on the Internet Explorer icon and select the *Run as administrator* option from the context menu. Otherwise, some functions of Web Client might be limited.

**NOTE**

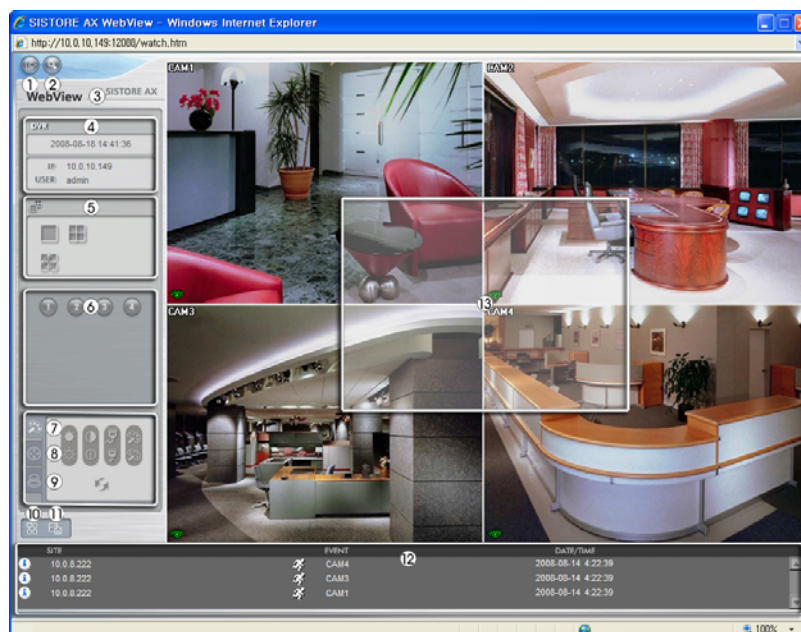
There might be a problem with screen display or screen update caused by low image transmission speed when using the Microsoft Windows Vista operating system. In this situation, it is recommended you disable the Auto Tuning capability of your computer.

Run the Command Prompt with elevated administrator permissions (Go to the Start Menu → Accessories → *Command Prompt* → Click the right mouse button and select the *Run as administrator* option). Then enter "netsh int tcp set global autotuning level=disable" and press the enter key. Restart your computer to apply the changes.



If you want to enable the Auto Tuning capability again, enter "netsh int tcp set global autotuning level=normal" after running the Command Prompt with elevated administrator permissions. Restart your computer to apply the changes.

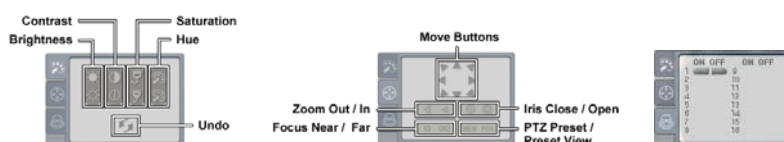
### 12.3.1 Web View Mode



WebView is a remote web monitoring program that allows you to monitor live video transmitted in real-time from the remote DVR.

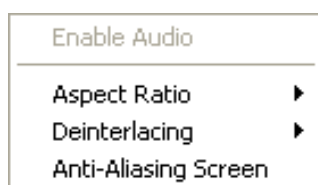


- ① Click the button to log out of the Web Client program.
- ② Click the button to access to the web search mode.
- ③ Position the mouse pointer on the WebView logo to see the version of the Web Client program.
- ④ The DVR information window displays the login information of Web Client.
- ⑤ Click the screen format to select the desired display mode. When changing the screen format, the selected camera on the current screen will be located in the first cell of the new layout.
- ⑥ Click the camera button (1 to 4) to select the camera to be viewed.
- ⑦ Click the button to adjust the brightness, contrast, saturation and hue of monitored image.

- ⑧ Click the  button to control pan, tilt and zoom of the camera from a remote site.
- ⑨ Click the  button to control alarm out devices at the remote site.



- ⑩ Click the  button to set up the image drawing mode and OSD display. You can adjust the display speed by changing the image drawing mode, and select OSD information to be displayed on the screen.
- ⑪ Click the  button to save the current image as a bitmap or JPEG file format.
- ⑫ The event status window at the bottom displays a list of events that were detected from the remote site.
- ⑬ Selecting a camera on the screen and clicking the right mouse button displays the text menu screen.



<b>Aspect Ratio</b>	Changes the image aspect ratio
<b>Deinterlacing</b>	Using a deinterlace filter for interlaced video enhances image display quality by eliminating horizontal scan lines and noise in areas with motion
<b>Anti-Aliasing Screen</b>	Enhances image display quality by eliminating stair stepping (aliasing) effects in the enlarged image

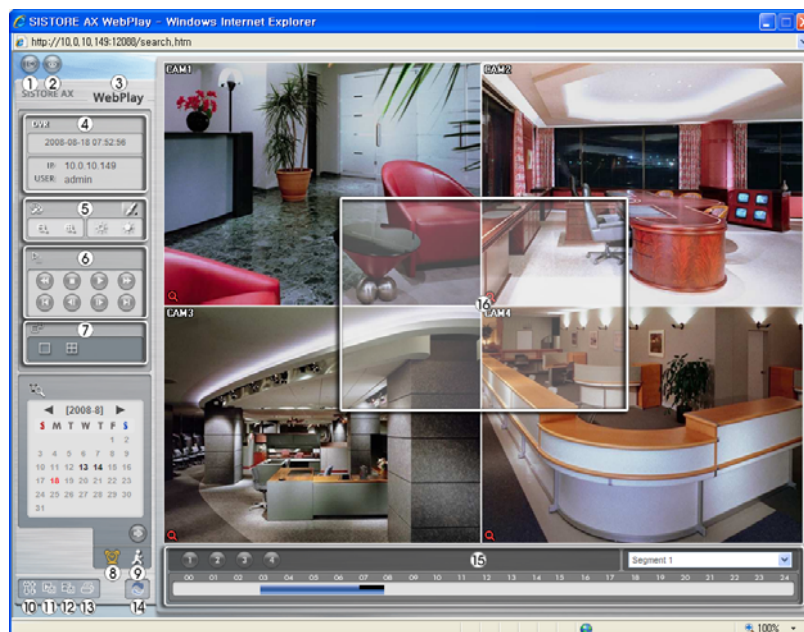
## 12.3.2 Web Play Mode

WebPlay is a remote web search program that allows you to search recorded video on the remote DVR.



### NOTE

The remote site connection in the Web search mode will automatically be disconnected if there is no activity for 30 minutes.





- ① Click the button to log out the Web Client program.
- ② Click the button to access to the web monitoring mode.
- ③ Position the mouse pointer on the WebPlay logo to see the version of the Web Client program.
- ④ The DVR information window displays the time information of recorded data on the remote DVR and login information of Web Client.
- ⑤ Click the button to blur, sharpen, equalize and interpolate playback images. Click the button to zoom out or zoom in the recorded image. Click the button to adjust the brightness of the recorded images.

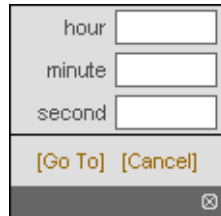


### NOTE







Image processing works only in the pause mode.

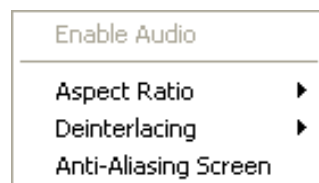
- ⑥ The playback function buttons include fast backward, pause, play, fast forward, go to the first image, go to the previous image, go to the next image, and got to the last image.

- ⑦ Click the screen format to select the desired display mode.
- ⑧ Click the  button to enter the time-lapse search mode which allows you to search for recorded data by time and then play back images found within the time parameters. The Timetable window located at the bottom displays the time information for the image of the date selected on the calendar. If more than one video stream in the same time range, you can select the video stream you want to search. Clicking a specific time displays the image recorded at that time on the screen. Selecting the  button allows you to display an image from a specific time.



A dialog box for time-lapse search. It contains three input fields labeled 'hour', 'minute', and 'second'. Below these fields are two buttons: '[Go To]' and '[Cancel]'. There is a small 'X' icon in the bottom right corner.

- ⑨ Click the  button to enter the event search mode which allows you to search for event log entries using specific conditions and play back the images associated with those event entries.
- ⑩ Click the  button to set up the image drawing mode and OSD display. You can change the display speed by adjusting the image drawing mode, and select OSD information to display on the screen.
- ⑪ Click the  button to save any video clip of recorded data as an executable file,
- ⑫ Click the  button to save the current image in a bitmap or JPEG file format.
- ⑬ Click the  button to print the current image on a printer connected to your computer.
- ⑭ Click the  button to reload the recording data.
- ⑮ The timetable displays recorded data of the selected camera by time (in hour segments). If the DVR's time and date have been reset to a time that is earlier than some recorded video and more than one video segment exists in the same time range, select the video segment you want to search from the **SEGMENT** menu at the top-right corner on the timetable.
- ⑯ Selecting a camera on the screen and clicking the right mouse button displays the text menu screen.



A text menu screen with a title bar 'Enable Audio'. Below the title bar are three menu items: 'Aspect Ratio', 'Deinterlacing', and 'Anti-Aliasing Screen'. Each item has a right-pointing arrow next to it.

**Aspect Ratio**

Changes the image aspect ratio

**Deinterlacing**

Using a deinterlace filter for interlaced video enhances image display quality by eliminating horizontal scan lines and noise in areas with motion

**Anti-Aliasing Screen**

Enhances image display quality by eliminating stair stepping (aliasing) effects in the enlarged image

## 12.4 Recording tables

### 12.4.1 Recording times with 250 GB HDD (days) for PAL images

	Recording quality (standard resolution)			
Recording speed	Very high (14.4 KB)	High (9.6 KB)	Standard (4.8 KB)	Low (2.4 KB)
100 ips	2.0	3.1	6.2	12.4
50 ips	4.1	6.2	12.4	24.8
25 ips	8.3	12.4	24.8	49.7
20 ips	10.3	15.5	31.1	62.2
15 ips	13.8	20.7	41.4	82.9
12.5 ips	16.6	24.8	49.7	99.5
10 ips	20.7	31.1	62.2	124.4
5 ips	41.4	62.2	124.4	248.8
2.5 ips	82.9	124.3	248.8	497.6
1 ips	207.3	310.9	621.9	1,243.9
0.5 ips	414.6	621.9	1,243.9	2,487.9
0.25 ips	829.3	1,243.9	2,487.9	4,975.8
0.1 ips	2,073.2	3,109.9	6,219.8	12,439.7

	Recording quality (high resolution)			
Recording speed	Very high (28.8 KB)	High (19.2 KB)	Standard (9.6 KB)	Low (4.8 KB)
50 ips	2.0	3.1	6.2	12.4
25 ips	4.1	6.2	12.4	24.8
20 ips	5.2	7.7	15.5	31.1
15 ips	6.9	10.3	20.7	41.4
12.5 ips	8.3	12.4	24.8	49.7
10 ips	10.3	15.5	31.1	62.2
5 ips	20.7	31.1	62.2	124.4
2.5 ips	41.4	62.2	124.3	248.8
1 ips	103.6	155.5	310.9	621.9
0.5 ips	207.3	310.9	621.9	1,243.9
0.25 ips	414.6	621.9	1,243.9	2,487.9
0.1 ips	1036.6	1,554.9	3,109.9	6,219.8

	Recording quality (very high resolution)			
Recording speed	Very high (57.6 KB)	High (38.4 KB)	Standard (19.2 KB)	Low (9.6 KB)
25 ips	2.0	3.1	6.2	12.4
20 ips	2.6	3.8	7.7	15.5
15 ips	3.4	5.1	10.3	20.7
12.5 ips	4.1	6.2	12.4	24.8
10 ips	5.1	7.7	15.5	31.1
5 ips	10.3	15.5	31.1	62.2
2.5 ips	20.7	31.1	62.2	124.3
1 ips	51.8	77.7	155.5	310.9
0.5 ips	103.6	155.5	310.9	621.9
0.25 ips	207.3	310.9	621.9	1,243.9
0.1 ips	518.3	777.4	1,554.9	3,109.9

## 12.4.2 Recording times with 250 GB HDD (days) for NTSC images

	Recording quality (standard resolution)			
Recording speed	Very high (12 KB)	High (8 KB)	Standard (4 KB)	Low (2 KB)
120 ips	2.0	3.1	6.2	12.4
60 ips	4.1	6.2	12.4	24.8
30 ips	8.3	12.4	24.8	49.7
20 ips	12.4	18.6	37.3	74.6
15 ips	16.5	24.8	49.7	99.5
10 ips	24.8	37.3	74.6	149.2
5 ips	49.7	74.6	149.2	298.5
2.5 ips	99.5	149.2	298.5	597.1
1 ips	248.8	373.2	746.4	1,492.7
0.5 ips	497.3	746.4	1,492.7	2,985.5
0.25 ips	995.1	1,492.7	2,985.5	5,971.0
0.1 ips	2,487.9	3,731.9	7,463.8	14,927.6

	Recording quality (high resolution)			
Recording speed	Very high (24 KB)	High (16 KB)	Standard (8 KB)	Low (4 KB)
60 ips	2.0	3.1	6.2	12.4
30 ips	4.1	6.2	12.4	24.8
20 ips	6.2	9.3	18.6	37.3
15 ips	8.3	12.4	24.8	49.7
10 ips	12.4	18.6	37.3	74.6
5 ips	24.8	37.3	74.6	149.2
2.5 ips	49.7	74.6	149.2	298.5
1 ips	124.4	186.6	373.2	746.4
0.5 ips	248.8	373.2	746.4	1,492.7
0.25 ips	497.6	746.4	1,492.7	2,985.5
0.1 ips	1,243.9	1,865.9	3,731.9	7,463.8

	Recording quality (very high resolution)			
Recording speed	Very high (48 KB)	High (32 KB)	Standard (16 KB)	Low (8 KB)
30 ips	2.0	3.1	6.2	12.4
20 ips	3.1	4.6	9.3	18.6
15 ips	4.1	6.2	12.4	24.8
10 ips	6.2	9.3	18.6	37.3
5 ips	12.4	18.6	37.3	74.6
2.5 ips	24.8	37.3	74.6	149.2
1 ips	62.2	93.3	186.6	373.2
0.5 ips	124.4	186.6	373.2	746.4
0.25 ips	248.8	373.2	746.4	1,492.7
0.1 ips	621.9	932.9	1,865.9	3,731.9

### NOTE

The ips (images per second) of the above table is not the configured recording speed per camera, but the total number of recorded images per second. The values of the table represent the average case and are therefore not guaranteed.

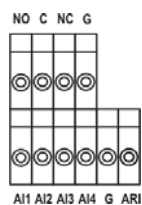
The SISTORE AX has a maximum recording speed of 100 images for PAL (120 images for NTSC) per second (ips) with standard resolution, 50 images for PAL (60 images for NTSC) per second (ips) with high resolution and 25 images for PAL (30 images for NTSC) per second (ips) with very high resolution that will be applied globally depending on the number of cameras recorded..





## 12.5 Connector pin outs

### I/O connector pin outs



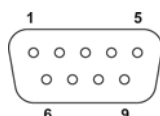
AI (1 to 4)	Alarm Inputs 1 to 4
G	Chassis Ground (2 connectors)
NC	Relay Alarm Outputs (Normally Closed)
NO	Relay Alarm Outputs (Normally Open)
C	Relay Common
ARI	Alarm Reset In

### RS485 connector pin outs



Master unit		Slave unit	
-	→	To	→ TX-
+	→	To	→ TX+
-	→	To	→ RX-
+	→	To	→ RX+

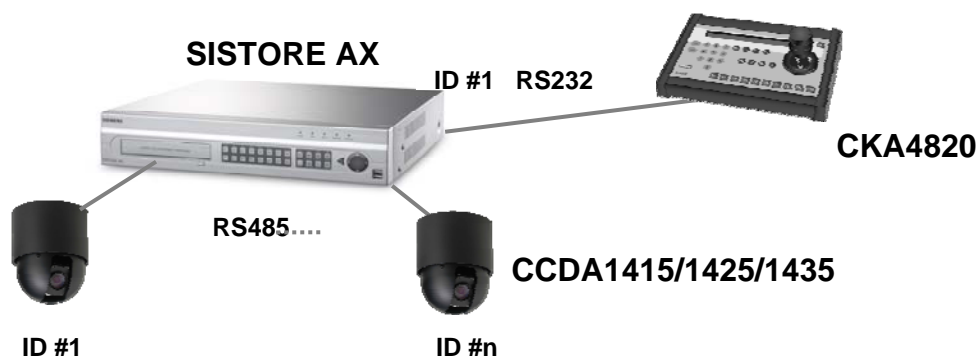
### RS232 connector pin outs



Pin 1	DCD (Data Carrier Detect)
Pin 2	RXD (Receive Data)
Pin 3	TXD (Transmit Data)
Pin 4	DTR (Data Terminal Ready)
Pin 5	GND (System Ground)
Pin 6	DSR (Data Set Ready)
Pin 7	RTS (Request To Send)
Pin 8	CTS (Clear To Send)
Pin 9	RI (Ring Indicator)

## 12.6 Connection diagrams

### 12.6.1 Connecting the remote keyboard CKA4820 and dome cameras CCDA1415 and CCDA1425/1435



#### Settings on the SISTORE AX

In the "Camera" menu:

- PTZ Device: Siemens CCDA
- ID: #1 ... #n

#### In the menu "RS232/RS485"

	RS232	RS485
Baud Rate	19,200	19,200 (CCDA1415) 1200... <b>9600</b> (CCDA1425/1435)
Parity	None	None
Data Bit	8	8
Stop Bit	1	1
Usage	Remote control	PTZ control

#### Pin out RS232 connection

SISTORE AX: RS 232	CKA4820: RS232 Com 1A
Pin 1	Pin 1
Pin 2	Pin 3
Pin 3	Pin 2
Pin 5	Pin 5
Pin 9	Pin 9

#### Pin out RS485 connection

SISTORE AX: RS 485	CCDA14xx
Tx +	Data +
Tx -	Data -

## 12.6.2 Local control of CCDA and CCDS dome cameras

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The following commands are supported when controlling CCDA and CCDS dome cameras locally on the DVR. Select the desired command in the PTZ menu using either the front panel buttons or a connected USB mouse.

OSD	Description
Speed	Speed control for Pan/Tilt movements
Set Preset / Preset View	Stored, fixed camera position that you can return to by entering the preset number
Auto panning	The dome camera will perform an auto scan operation
Tour	Repeat pre-configured sequence of presets that the dome will move between continuously.
Device menu	Open the menu of the dome for configuration

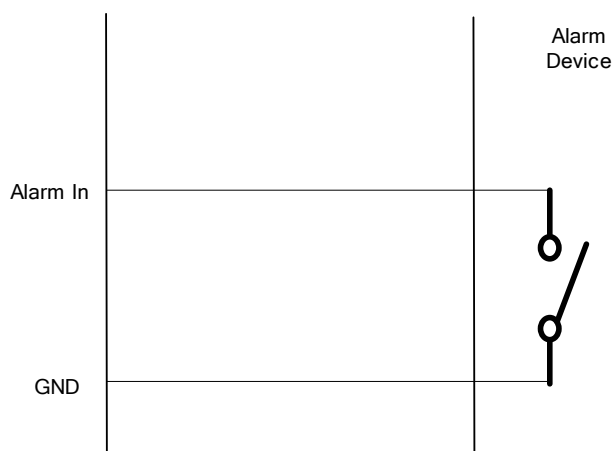
### OSD navigation

Once the OSD is displayed on the video output, navigation and parameter setup can be performed using the following commands:

OSD function	PTZ command
OSD up	PTZ up
OSD down	PTZ down
Select parameter / next page	Focus near
Deselect parameter / page back	Focus far

### 12.6.3 Connecting alarm input/output

#### Recommended Alarm-In connection



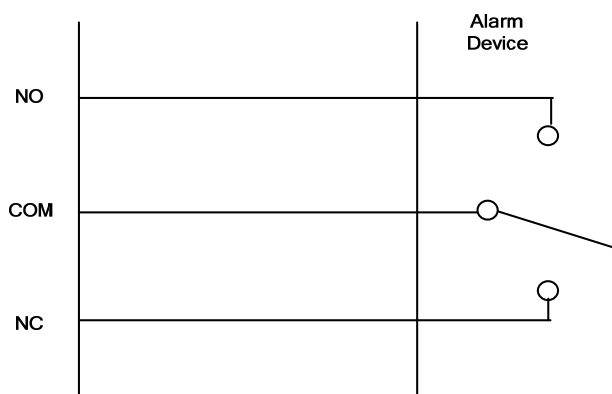
Mechanical alarm input device can be used as above, and 3.3 V TTL logic can also be used.



#### NOTE

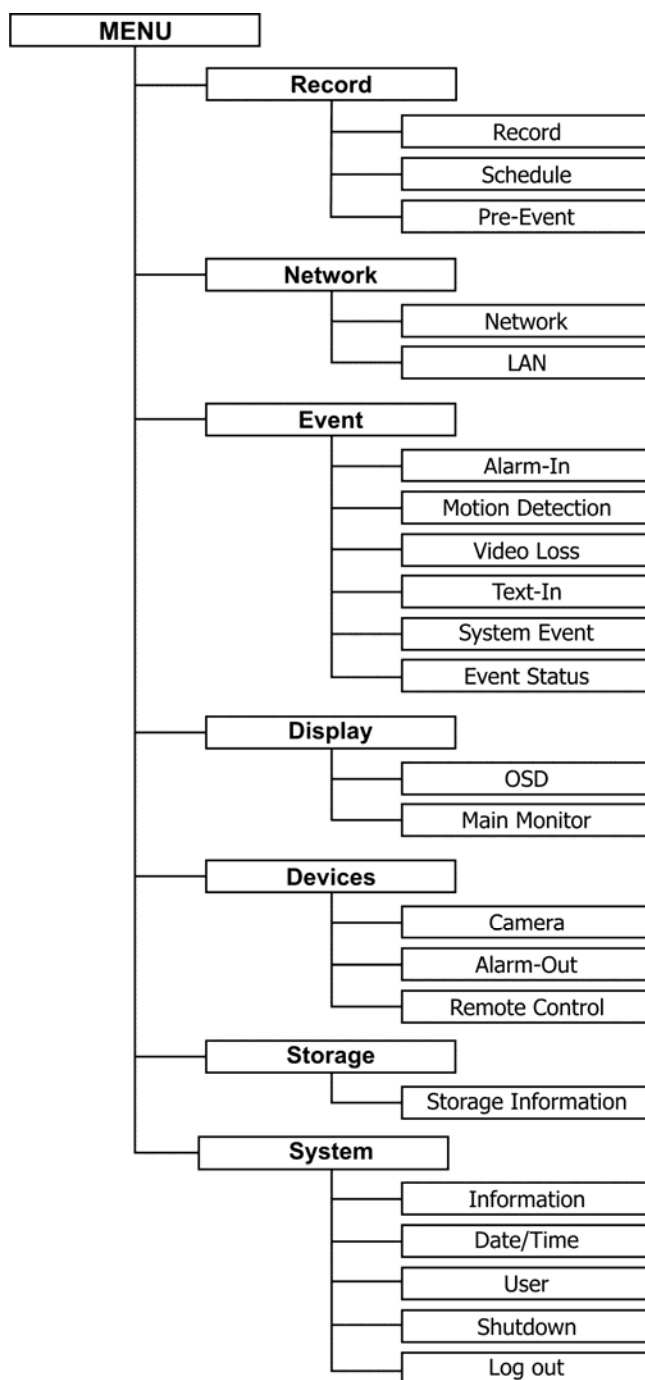
The threshold voltage of alarm input is below 3.3 V.

#### Recommended Alarm Out connection



Mechanical alarm output device can be used as above, and connect the device to the C (Common) and NC (Normally Closed) or C and NO (Normally Open) connectors. NC/NO is a relay output which sinks 2A@125VAC and 1A@30VDC.

## 12.7 Map of screens



## 12.8 System log notices

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Boot Up
Shutdown
Restart
Upgrade
Upgrade Fail
Time Change
Time Zone Changed
Time Sync
Time Sync Fail
Disk Bad
Login
Logout
Setup Begin
Setup End
Remote Setup Change
Remote Setup Fail
Setup Imported
Setup Import Failure
Setup Exported
Setup Export Failure
Setup Export Cancel
Schedule On
Schedule Off
Panic Record On
Panic Record Off
Clear All Data
Format Disk
Disk Full
Auto Deletion
Search Begin
Search End
Clip-Copy Begin
Clip-Copy End
Clip-Copy Cancel
Clip-Copy Fail
Callback Fail

## 12.9 Error code notices

System Upgrade Related	
Number	Description
0	Unknown error.
1	File version error.
2	Operating system version error.
3	Software version error.
4	Kernel version error.
100	Upgrade device mounting failed.
101	Package is not found.
102	Extracting package failed.
103	LILO failed.
104	Rebooting failed.
105	Invalid package.
300	Remote connection failed.
301	Remote network error.
302	Remote upgrade is not authorized.
303	Saving remote package failed.
304	Remote upgrade is cancelled by the user.
400	USB device mounting failed.
401	Reading upgrade package on the USB device failed.
402	Copying upgrade package on the USB device failed.
500	System is busy clip copying.
Clip Copy Related	
Number	Description
0	Unknown error.
1	Device error.
2	Mounting failed.
3	No media.
4	Invalid media.
5	File already exists.
6	Not enough space.
7	Creating temporary file failed.
8	Opening disk failed.
9	Formatting disk failed.
10	Database has been changed.
11	Appending failed.
12	Bad sector.
13	No executable file.
14	Opening executable file failed.
15	Writing executable file failed.
16	Creating image failed.
17	Burning failed.
18	Burning is out of time.

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